

OCT 13 1928

DC

MOTOR AGE

A Chilton Class Journal Publication
Published Weekly October 11, 1928

AUBURN

POWERED BY LYCOMING

**Pittsburgh-Auburn Co.,
5740 Baum Boulevard,
Pittsburgh, delivered in
the first six months
of 1928 within forty-four
automobiles of the
number they delivered
in the entire year of 1927
and made a net profit
of \$25,000.00**

What Is YOUR Expectancy?

Auburn Automobile Co., Auburn, Indiana



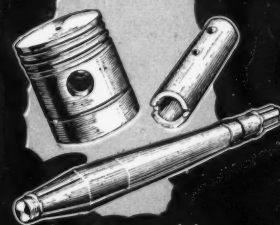
Stop Try-fitting!

HAVE Arrow Head supply your pistons and pins and your men will never again waste valuable time sorting pins to pistons or try-fitting pistons to cylinders. Arrow Head delivers pistons and pins in *balanced fitted* assemblies—built to your specifications, with such accuracy and uniform high quality that they may be sent direct to your assembly line for immediate installation.

As piston and pin headquarters for a large and rapidly increasing number of prominent motor makers, Arrow Head has specialized facilities to produce pistons and pins for you in practically any quantity at important savings. Quotations on request. Write today.

ARROW HEAD STEEL PRODUCTS COMPANY
BUFFALO MINNEAPOLIS, MINNESOTA CHICAGO

Arrow Head



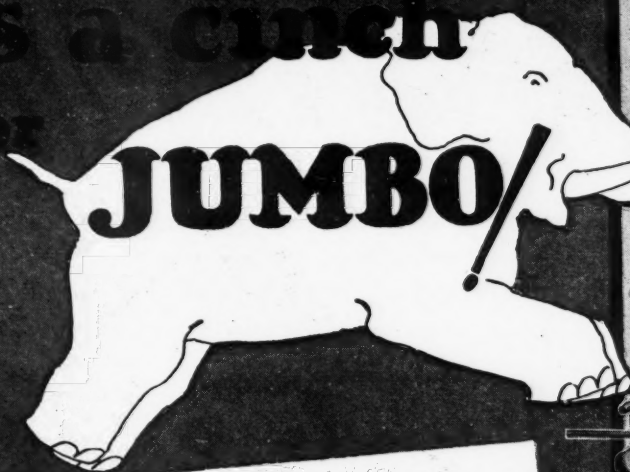
**Dependable
Products**

Save 20 machining, inspecting and fitting operations when you build a Motor—use Arrow Head Balanced Piston and Pin assemblies—just unwrap and slip in to place.

Arrow Head

Pistons ▲ Piston Pins ▲ Axle and Drive Shafts

It's a cinch
for
JUMBO



IT'S a cinch for Jumbo Equipment to multiply your profits on repair and service work. Every Jumbo machine is specially designed to meet a definite need—a definite market which exists wherever cars or trucks are operated.

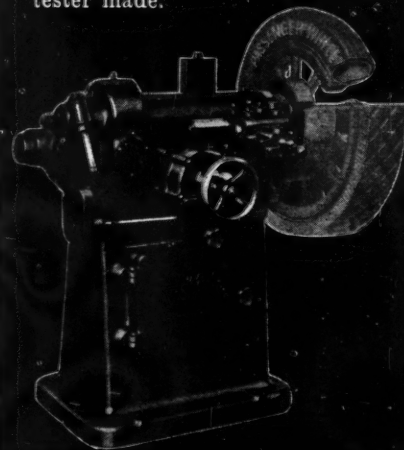
Price-Hollister-made equipment means cutting of overhead—doing every job faster, easier and more economically than any other method or machinery can do it. Endorsed the world over for its service-giving, profit-building efficiency.

THE PRICE-HOLLISTER COMPANY
ROCKFORD, ILL.

Export Department: 140 W. 42nd Street, New York City
Cable Address "JUMBO", all Codes

JUMBO GIANT BRAKE TESTER

Speed—volume—accuracy! Handles up to 50 cars per day. Shows driver the need for brake adjustment, re-lining and drum truing. Automatic. No estimating or figuring. Finest, most profitable tester made.



JUMBO BRAKE DRUM TURNING AND GRINDING MACHINE

Trues inside and outside of brake drums of cars and trucks rapidly and accurately. Fully automatic. Trouble-free. Only universal machine for both turning and grinding. Soon pays for itself.

THE PRICE-HOLLISTER CO., Dept. P-10
Rockford, Ill. Please send data on

- ☐ Giant Brake Tester
- ☐ Brake Drum Machine
- ☐ Complete catalog of Jumbo Equipment

Name.....

Address.....

Business.....

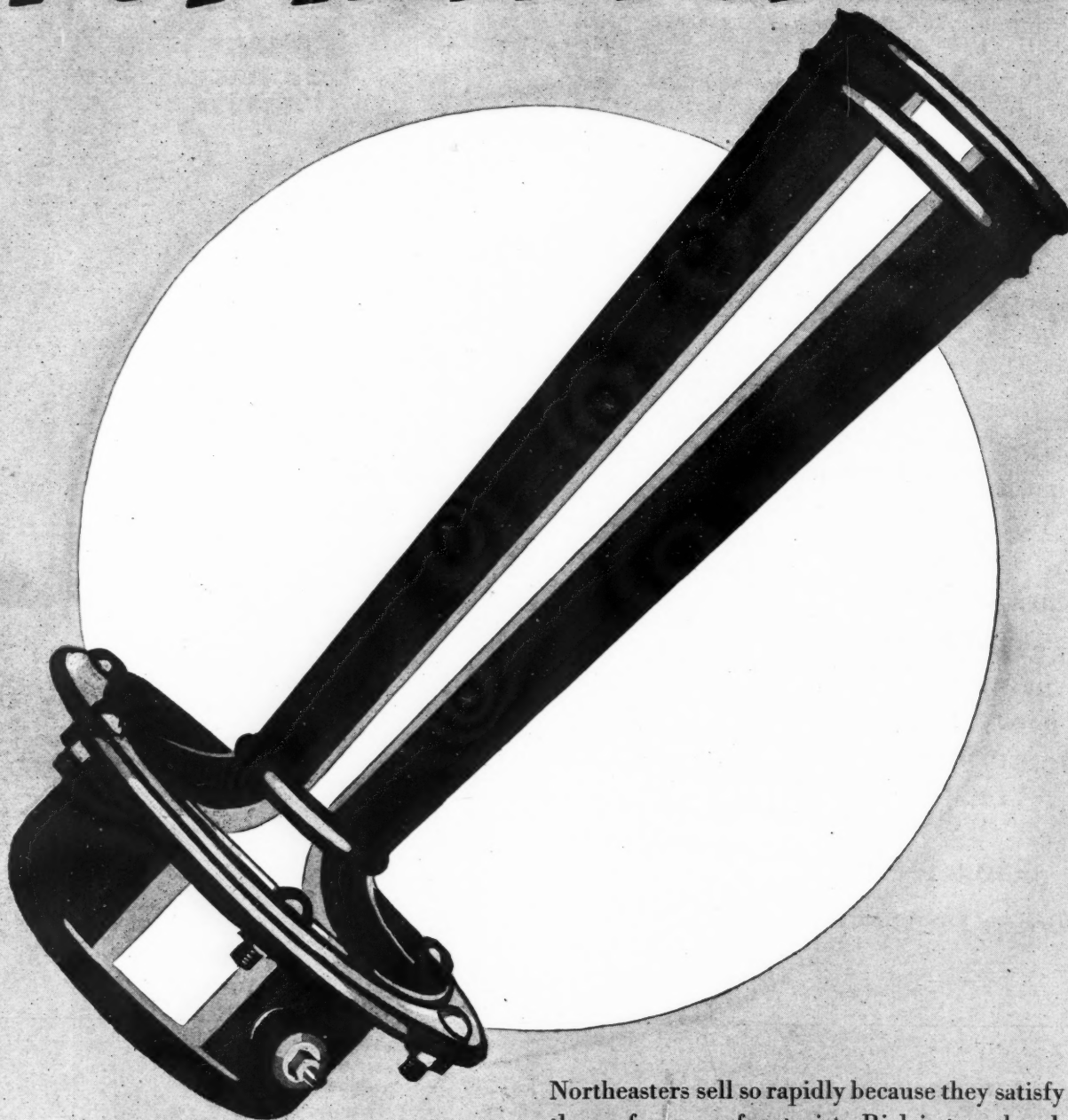


—and a complete
program of
Sales Helps

JUMBO EQUIPMENT.

MAKES SERVICE PAY...

NORTHEASTERS



Northeasters sell so rapidly because they satisfy the preferences of motorists. Rich in tone, handsome in appearance, attractive in price—only \$5.00 and \$7.50 retail. Rugged magnetic and motor-driven types, in sizes for every purpose. Generous dealer profit in every sale.

NORTH EAST SERVICE INC.

Rochester



New York

Service Stations all over the world

MOTOR AGE

Vol. LIV

Reg. U. S. Pat. Off.
Established 1899

No. 15

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MOTOR AGE is published every Thursday by
CHILTON CLASS JOURNAL COMPANY

Chestnut and 56th Streets, Philadelphia, Pa.

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Owned by United Publishers Corporation, 239 West 39th Street, New York; ANDREW C. PEARSON, Chairman, Board of Directors; FRITZ J. FRANK, President; G. A. MUSSELMAN, Vice-President; F. C. STEVENS, Treasurer.

SUBSCRIPTION RATES: United States, Mexico and U. S. Possessions, \$3.00 per year; Canada, \$5.00 per year. All other countries in Postal Union, \$6.00 per year. Single Copies, 35 cents.

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Member of the Audit Bureau of Circulations
Member Associated Business Papers, Inc.

Subscriptions accepted only from the Automotive Trade
Entered as Second Class Matter, June 2, 1927, at the Post Office at Philadelphia, Pa., under Act of March 2, 1879.

Bend It Till It Breaks

When it is claimed that Kodaloid (genuine Eastman Transparent Sheeting) possesses unique flexibility, it is only fair, naturally, to allow you to prove it for yourself.

If you will fill out the coupon below, a sample of Kodaloid will be sent you and you may make the following comparative test. Cut one strip from the sample, one inch wide, and a similar sized strip from the material you now use. Next take the sample of Kodaloid and bend it over on itself and then do the same in the opposite direction and repeat this until the sample breaks. Do likewise with the other sample. Then call up your jobber and order your supply of the sample which gave the greater number of folds.

In addition to its flexibility Kodaloid possesses unrivaled transparency, freedom from color and high, natural gloss.

Eastman Kodak Company

Chemical Sales Division Rochester, N. Y.

Eastman Kodak Company

355 State Street
Rochester, N. Y.

Gentlemen:

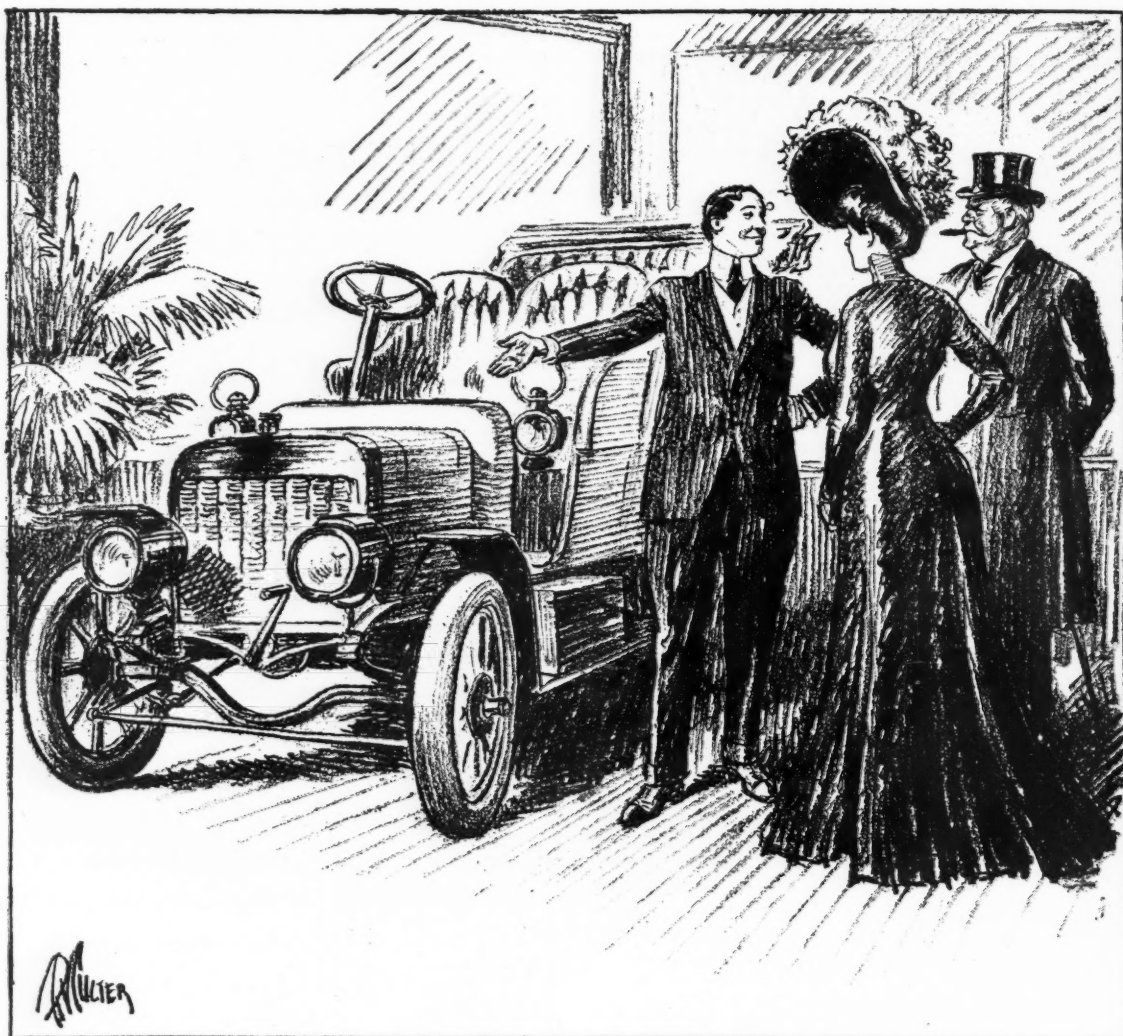
Please send me sample of Kodaloid so that I may make the test described above.

My jobber's name is

Address

My name is

Address



In 1908 . . .

THE AUTO SHOW BALLYHOO OF 20 YEARS AGO BOASTED THE ARRIVAL OF THE ULTIMATE MOTOR CAR. NEITHER ENGINEERING GENIUS NOR DESIGNING SKILL COULD EVER PRODUCE ANOTHER IMPROVEMENT, QUOTH THE EXUBERANT SALESMAN.

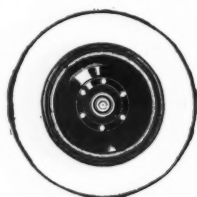
IN a point-for-point comparison between that "last word" car of 1908 and the modern automobile, the improvement in wheel construction stands out. For the advent of Budd-Michelin made wheels more than a means of turning power into motion. It gave them new importance as a source of safety, convenience and beauty.

Budd-Michelin Wheels are safe, because they are made of cold-rolled steel. A blow that would smash a wooden wheel, could only dent a Budd-Michelin. So the danger of turning over is eliminated. And a dented Budd-Michelin is a small matter. There's a fifth wheel to take its place and the blemish can be fixed for \$3 or

so. Delays, tow-charges and a new wheel cost a good deal more than that!

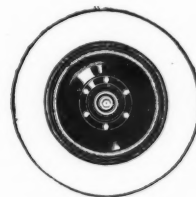
When there's a tire to shift, that's a simple matter. The wheel with the flat comes off. The spare wheel goes on. A four-minute incident—and you're on your way. That's *convenience* for you.

Budd-Michelin polished discs have a smooth, graceful beauty that belongs with the trim, stream lines of the modern car. And a swift dab with a cloth keeps them bright and clean. That's the closing argument that swings many a choice to the car equipped with Budd-Michelin Wheels.



BUDD

WHEEL COMPANY, DETROIT



Also makers of the Budd Interchangeable Wire Wheel and Budd Dual Wheel

ahead- in *SALES* every month for 13 months!

*—and the President is outselling
every Eight in the World!*

Month after month for a year past Studebaker-Erskine retail deliveries have shown gains over the previous year.

Record after record has added to the long list of Studebaker achievements of performance—114 official speed and endurance records in all! Topped by The President Eight's world record of 30,000 miles in

26,326 minutes! Now comes another President record! This great Studebaker Eight at \$1685, though less than a year on the market, outsells every other eight-cylinder car in the world!

The motor world pays increasing respect to the genius of Studebaker engineering—proved by the reliable barometer of *actual retail sales*.

STUDEBAKER

The Studebaker franchise gives you not only The President Eight, selling from \$1685 to \$2485; but also The Commander at \$1435 to \$1665; The Dictator at \$1185 to \$1395; and The Erskine Six at \$835 to \$1045—four great lines of passenger cars—in addition to a full line of commercial cars.

Write—wire—now—today, for confidential information on the Studebaker franchise in your vicinity. You will be surprised how very small is the investment required. Address Dept. 51, The Studebaker Corporation of America, South Bend, Indiana.

Ten Million
know the name **VULCO**

The name "GATES VULCO" in big letters on fan belts and radiator hose is seen by over half of all the car owners in the whole U. S. every time they lift the hood of their car. No other name in the rubber accessories field is on so many cars—and this name has stood for quality for ten years now. More than 10,000,000 motorists know Vulco and the quality it stands for. That's why Vulco Tire sales have doubled this year.

VULCO TIRES

Manufactured by The Gates Rubber Company, Denver, U. S. A.

A Secret of New Departure Endurance

WHERE steel fibre or "grain" runs *parallel* to surfaces of a bearing subjected to loads the endurance life is much greater than where the load is taken on "end grain" or fibre ends.

The exceptional endurance of New Departure Ball Bearings is explained in part by special processes by which the direction of the fibre is controlled in the steel.

Special upset forging processes force the "fibre flow" in the ball bearing rings *parallel* to the raceways.

This explains a hitherto little known factor contributing to the remarkably long and uniform endurance found in New Departure Ball Bearings.

THE NEW DEPARTURE MFG. COMPANY
BRISTOL, CONNECTICUT
Chicago San Francisco Detroit

**NEW DEPARTURE
QUALITY
BALL BEARINGS**



Uphill Grind
OK.

Downhill Reaction
OK.

Side Thrust
OK.

Rough Going
OK.

Torque
OK.

Corner of
Timken Physical
Testing
Laboratory.

OK, by test

That Timken Bearings in use shall stand every test of radial load, thrust, torque, shock and speed is a foregone conclusion because such service has been foreseen.

In the Timken Physical Testing Laboratory, bearings must *prove what they will do on the road.*

They must survive tests more strenuous than they will ever actually experience.

It is not enough for Timkens merely to measure up to ordinary expectations. Timken Bearings must have an over-measure on the side of safety and endurance.

Before going into any new installation, Timken electric steel, Timken tapered construction and Timken **POSITIVELY ALIGNED ROLLS** must prove their worth again and again.

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN Tapered Roller **BEARINGS**

MOTOR AGE

VOLUME LIV

Philadelphia, October 11, 1928

NUMBER 15

L. G. Peed Joins Chrysler Corp.

Will Hold Executive Sales Post to be Announced Later

LEAVES WILLYS

DETROIT, Oct. 6—Appointment of L. G. Peed, formerly sales manager of the Willys-Overland Corp., to an important executive position in the Chrysler Corp. was announced today by J. E. Fields, vice-president in charge of sales of Chrysler.

Mr. Peed was for 10 years associated with the old Maxwell Motor Co. and has for the past 11 years been with the Willys-Overland Corp. in various sales capacities.

Mr. Peed's first commercial experience after leaving school was in the New Castle plant of the Maxwell Motor Co. Coming to Detroit he progressed through the Maxwell organization.

In 1917 he was offered the position of sales manager of the Willys-Overland New York branch and in 1919, after his return from war service, he was made assistant zone manager of the Eastern division of the Willys-Overland Corp. In 1921 he became manager of the Toledo branch. In 1922 he was appointed assistant sales manager at the factory, and worked under the leadership of Walter P. Chrysler, with whom he again joins forces. In November of 1922 he became Willys-Overland sales manager, which position he filled to the date of his resignation.

Expands Service Branch

LOS ANGELES, Oct. 8—The Los Angeles branch of United Motors Service has just completed an enlargement of facilities of all departments that places this firm in the front rank of the modern specialized automotive service stations on the coast. Total floor space has been doubled and equipment and parts stock greatly increased. W. G. Hinnau is Los Angeles branch manager of United Motors Service.

Oakland Ships 19,113

DETROIT, Oct. 8—The Oakland Motor Car Co. delivered 19,113 cars in September, bringing shipments for the first nine months of the year to 225,879, compared with 160,554 units in the corresponding period of last year.

Commerce Chamber Estimates 460,000 Output for September

NEW YORK, Oct. 6—Production of automobiles during September of the current year is estimated by the National Automobile Chamber of Commerce as 460,000. This figure indicates a continued high scale of production, comparing with 271,649 for the corresponding month last year, although it does represent a slight drop from August of this year when the production was 489,758.

Moriarty Promoted

LOS ANGELES, Oct. 8—George H. Moriarty, who for more than a year has been stationed at Los Angeles, has been appointed assistant general sales manager for the Locomobile Co. of America, Inc. He recently departed for Bridgeport, Conn., to assume his new duties.

Oil Dealers Organize

SCRANTON, PA., Oct. 8—Approximately 55 independent retail operators of gasoline and oil stations in northeastern Pennsylvania met at the Hotel Casey in Scranton last week and formed an association for the purpose of buying products in bulk quantities to better their competition with the larger companies. Kenneth McDonnell, of Scranton, was named president of the association. Recently the large refineries operating retail stations in this section of the state lowered the consumer's rate to 17 cents per gallon for the standard fuel, abolished special commercial discounts to fleet owners, at the same time standardizing the retailers' profit on a differential of 2 cents per gallon below the set consumers' figures. The association is an effort to alleviate the threatening situation.

Motorists' Association Quits

LOUISVILLE, KY., Oct. 8—Announcement was made in circulars sent members by the American Motorists Corp. that the organization, which lists some 300 or 400 members, was winding up. The plan of this body was to sign up consumers or motorists, who for \$20 a year were able to secure discounts on tires, oils, gasoline, auto supplies, batteries, etc., by patronizing a number of companies with which the organization had contracted.

Allied Products Formed By Merger

Indiana Lamp, Victor-Peninsular and Richard Brothers Combine

TO MAKE LAMPS

CHICAGO, Oct. 6—Formation of the Allied Products Corp. in Illinois to acquire the business of the Indiana Lamp Corp., Victor-Peninsular Co. and the Richards Brothers Die Works, organized in 1910, 1917 and 1915 respectively, was announced today by John Burnham & Company, investment bankers, in circulars offering 50,000 shares of Class A convertible common stock in the new corporation.

The new corporation will continue the manufacture of all types of lamps for automobiles including headlights, side lights and tail lights at Connersville, Indiana, where it is also the exclusive producer of the Ilco-Ryan-Lite. Special dies, interchangeable dies and punches, cap screws, shackle bolts and similar products are manufactured at Detroit and Hillsdale, Michigan. Approximately 80 per cent of the company's products are purchased by the automotive industry.

Net sales of the corporation for the three months ended March 31 were \$1,630,290 and net profits were \$224,981. The figures for six months without audit show sales of \$3,400,000 and net profits of more than \$450,000.

R. O. Cunningham has been named president of the new corporation and the company states that those who have been responsible for the successful development and operation of the three businesses in the past, will continue in the active management.

Brigance Elected by Dealers

LOS ANGELES, Oct. 8—J. W. Brigance, sales manager for the Los Angeles factory branch of the Reo Motor Car Co., has been elected president of the Sales Managers' Association of the Los Angeles Motor Car Dealers Association. A. B. Hull, sales manager for the Nash-Breyer Motor Co., was elected vice-president, and Morton Bowman, LaSalle sales manager for Don Lee, was elected secretary-treasurer. Mr. Brigance, as the new president, succeeds F. E. Guinney, Cadillac sales manager for Don Lee, who headed the association last year.

47 Lines of Cars Draw N. Y. Spaces

Salon for High Priced Cars
to be 1929 Show
Feature

NEW YORK, Oct. 8—Signing up every square foot of floor space as the automobile industry approaches a new production record for all time, more than 250 motor vehicle, parts and equipment makers reserved positions for the New York and Chicago shows at the annual drawing Oct. 4. The New York event will be Jan. 5-12 and the Chicago show, Jan. 26-Feb. 2.

Forty-two makers of motor vehicles will exhibit over 200 models. Parts and equipment makers, the bulk of whose space is reserved by the Motor & Equipment Association, will include 225 exhibitors. Five foreign cars will be exhibited in New York.

Several radical changes are being made in the show this year. The inclusion of foreign cars is a new move. Another change is the grouping of the higher priced cars in a salon on the second floor. A number of these cars are entitled to draw for space on the first floor but it is believed that public convenience will be assisted by a grouping of cars in the higher priced scale on one level.

Cars to be exhibited include Auburn, Buick, Cadillac, Chandler, Chevrolet, Chrysler, Cunningham, De Soto, Dodge Brothers, duPont, Durant, Elcar, Erskine, Essex, Franklin, Gardner, Graham-Paige, Hudson, Hupmobile, Jordan, Kissel LaSalle, Lincoln, Locomobile, Marmon, Moon, Nash, Oakland, Oldsmobile, Packard, Peerless, Pierce-Arrow, Plymouth, Pontiac, Reo, Roamer, Stearns, Studebaker, Stutz, Velie, Willys-Knight, Whippet. Taxicabs: Yellow. Foreign cars: Austin, Daimler, Mercedes-Benz, Renault and Vauxhall.

New \$1,500,000 Chrysler Plant

DETROIT, Oct. 6—A 70-acre tract of land between Ford and Windsor, Ont., has been purchased by the Chrysler Corp. of Canada on which it will erect a \$1,500,000 plant soon. The present Windsor plant acquired in 1924 will be kept in operation as a parts factory and when the new unit is completed it will raise the Chrysler output from 150 cars a day to 365 cars a day, according to John D. Mansfield, president and general manager.

Automobile Men on Air Board

LOUISVILLE, KY., Oct. 8—Two Louisville automobile men have been named members of the Louisville & Jefferson County Air Board, of six members, by Mayor Harrison, one being Edward L. McPhee, manager of the Louisville division of the Ford Motor Co., and the other, Albert M. Woody, former aviator and Ford agent, who recently became manager of the Consoli-

Box Car Numbers on the Studebaker Atlantic City Run

THE figures below show strains and stresses that each of the four stock Studebaker President Eights withstood when each traveled 30,000 miles in less than 30,000 consecutive minutes at the Atlantic City Speedway:

Total revolutions of each engine.	67,320,000
Total explosions in each engine	269,280,000
Total up and down travel of each piston	49,087,500 (ft.)
Total times each valve opened ..	33,660,000

These figures, the result of slide rule calculations, are so large that they are difficult to visualize. The President Eight maintained better than mile-a-minute speeds for 19 successive days and 18 successive nights.

dated Motors Co., a new company formed to handle the Lincoln car in Louisville, and composed of the various Ford agents.

Morey and Kinyoun Stutz Dealers

WICHITA, KAN., Oct. 6—D. D. Morey and J. Perry Kinyoun have been appointed distributors for Stutz in Wichita and adjacent territory. D. D. Morey, president and treasurer of the firm, comes to Wichita from Manhattan, Kan., where he has been in the real estate and contracting business for 15 years. Mr. Kinyoun is well known in Wichita, having been associated with the Lincoln agency a few years ago. He has been in the automobile business for the past 15 years.

Ford Passes 5,000 a Day

DETROIT, Oct. 8—Ford Motor Co. is making slightly more than 5000 cars a day and production is slowly but steadily increasing every day, according to an official of the company. Approximately 400,000 of the new Model "A" Fords have been produced. The company is now employing approximately 125,000 men in the Fordson and Highland Park plants. This is the largest employment in Ford's history.

O. C. Tyner

CLEVELAND, Oct. 6—O. C. Tyner, president of the Jordan-Ohio Co., this city, was instantly killed Sept. 29 when his automobile struck the concrete abutment of a safety zone in East Cleveland. Mr. Tyner was one of Cleveland's first motor car dealers, coming from Chicago 20 years ago. He had been president of the Jordan-Ohio company for 11 years and was the Jordan company's oldest distributor. For a number of years Mr. Tyner had been prominent in the Cleveland Automobile Manufacturers and Dealers Association, and had served several terms as a director.

New Murray Head Assumes Control

Says Company Will Continue
as Independent in Body
Field

DETROIT, Oct. 6—The new management of the Murray Corp. of America will continue the company's program of constantly improving efficiency within plants, C. W. Avery, who has been elected president and general manager, said on taking up his new duties.

A program of expansion which is being brought about by the rearrangement of departments within the present Murray buildings will be continued, Mr. Avery said. Besides personnel changes announced after the New York meeting there will be few other changes, he said.

Asked if rumors which have been current in financial circles recently to the effect that a certain automobile manufacturer was trying to gain control of one of the large body companies, Mr. Avery said: "You can say for me that no motor car manufacturer whatsoever is interested in the change of management which was announced in New York."

"Everything points to an exceptionally good business for the automotive industry during the last quarter as compared with previous corresponding periods."

Drop High Truck Appraisals

PONTIAC, MICH., Oct. 6—Excessive trade-in allowances will no longer be made on General Motors trucks. This announcement, considered to be of far-reaching importance, was made here today by O. L. Arnold, vice-president, directing sales of the company.

Colling With Leco Automaton

CHICAGO, Oct. 6—C. J. Colling of Cleveland, formerly Eastern district manager for Biflex Bumper Co. and previously with the Pennsylvania Piston Ring Co., Cleveland, has been appointed Eastern district manager for the Lubricating Equipment Co., Chicago.

Albertson & Co. Builds Addition

SIOUX CITY, IOWA, Oct. 6—Albertson & Co., manufacturer of automotive tools, has begun construction upon its new \$60,000 addition, west of the present plant, which will be 40 x 155 ft., with four floors and basement. It will be reinforced concrete construction and is scheduled to be fully equipped and in operation by Feb. 15. Business of the plant has been growing so fast that double shifts have been employed in recent months in effort to meet production demands.

Plant Operations High in October

Gradual Decline From Third Quarter Seen But Record Year Looms

NEW YORK, Oct. 6—Entering the last quarter on a scale of operations comparable to the high level in the third-quarter, automobile factories will continue at an active though gradually diminishing rate through October. Marked reductions will probably take place in November and December due to manufacturing changes in a number of large producing plants in preparation for 1929 business.

With the high September total, production in the first nine months this year has exceeded the entire 1927 total by about 100,000 and is about equal to the nine months' period in 1926, the industry's record year. To establish a new production total this year the industry must exceed the 790,000 total set up in the final quarter of 1926. Present indications are that production in the final quarter this year will approximate 1,000,000.

Retail sales conditions generally in September showed a decline from the earlier months of the quarter, a decline that was marked in some of the large Northeastern centers and more gradual in other sections. In the sections in which reduced business was most marked, the decline was adduced to a concentration of dealer effort to the moving of used cars before cold weather sharply curtailed marketing opportunities. Business for the month, however, was considerably better than in the same month last year and new car stocks are low.

Huebner Supply Co. Expands

TOLEDO, Oct. 8—The Huebner Supply Co., one of the largest distributors of automotive supplies in this section of Ohio, has purchased a four-story commercial building at 20-22 Erie St., in the heart of the wholesale and jobbing district here, and will completely remodel it to accommodate expanding business of the company. The new home will be ready about Jan. 1. In the new location there will be a new department to specialize in handling of airplane parts and accessories—the first of its kind in Toledo.

Burt to Make \$100,000 Club

SPOKANE, WASH., Oct. 6—B. J. Burt, salesman in the used car department of Transport Motor Co., Spokane, is fourth man in the western part of the United States, including Chicago and St. Louis, in a sales contest of Willys-Overland, Inc., according to word received by E. P. Olson, sales manager of the Spokane firm.

"The contest is for membership in the factory's \$100,000 club, composed of salesmen who sell \$100,000 worth of

Franklin V. P.



John E. Williams

Appointment of John E. Williams as vice-president in charge of sales for the Franklin Automobile Co. has been announced by H. H. Franklin, president. For the past year and a half Mr. Williams has been merchandising and advertising counsel for Franklin, and previously was vice-president of the United States Advertising Corp.

cars a year on a basis of the factory net price," said Mr. Olson. "Mr. Burt's record is especially gratifying because he took a vacation of an entire month and now has \$90,700 worth of business to his credit, with more than three months to go."

Chevrolet "72" Club Elects

CINCINNATI, Oct. 8—B. L. Dockum, of the Avondale Chevrolet Motor Co., was elected president of the Chevrolet "72" Car Club at the meeting of that organization held last week. Leroy Jungclass, of the Economy Chevrolet Motor Co., was made vice-president; Scott Finlay, of Hamilton, Ohio, secretary, and A. B. Stretch, of the Gilbert Chevrolet Sales Co., treasurer.

Brockman Heads Hoover Drive

ST. LOUIS, Oct. 6—Col. Phil H. Brockman, president of the De Luxe Automobile Co., president of the St. Louis Automobile Dealers' Association, and former chairman of the Board of Police Commissioners, has been appointed director of the Western division of the Hoover-Curtis Automobile Sales League.

Parsons Adds Packard Line

HOLYOKE, MASS., Oct. 6—W. R. Parsons has been appointed Packard dealer here. He is retaining the Graham-Paige line.

Auburn Shows a Victoria Model

New Car Incorporates Usual Auburn Lines. Shift Lever Changed

AUBURN, IND., Oct. 6—A new four-passenger Victoria model on the 8-88 chassis and the 6-76 is announced by the Auburn Automobile Co. Production has begun and shipments are being made daily. The new model incorporates the standard Auburn lines with only slight changes in general design.

Three permanent seats are provided with one auxiliary folding seat. A large package compartment reached through a top door is fitted into the rear deck. Rear quarter glasses lower in the same fashion as the door glasses and a Cadet type windshield visor is provided.

One deviation from former Auburn design is in the windshield which raises up instead of out as on the present sedans and sport sedans. The windshield wiper operates from the top of the windshield.

Location of the gearshift lever has been changed to place it in a position most easily reached by the driver. The parking brake lever has been lengthened and is operated by a new type of spoon latch.

Automotive Paints for Newark

NEWARK, N. J., Oct. 6—R. E. Rodriguez, 56-58 Warren St., New York, dealer in automotive paint products and specialties, has leased from Tonks Brothers the front portion of the second floor of the Tonks Building, 227 High St. The Newark salesrooms of the company will be located facing on High St., while a portion of the space leased will be used by Rodriguez for the manufacture and storage of paints.

Howard Auto Co. Advances

PORTLAND, ORE., Oct. 6—Claude A. McGee, manager of the Portland branch of the Howard Automobile Co., has announced an increase in the executive staff with the promotion of Monroe Sanders, to sales promotion manager; and L. K. Nichols and Neil Morfitt have been appointed territory representatives for the company.

Espenhain V.P. of Fisk

CHICOPEE FALLS, MASS., Oct. 6—Frank K. Espenhain, formerly first vice-president of the Goodyear Tire & Rubber Co., has been appointed executive vice-president of the Fisk Rubber Co., and began his duties Oct. 1. Mr. Espenhain was with the Goodyear organization six or seven years, and previous to that was an export representative in New York for several companies.

Steaks and Bouts N.S.P.A. Features

Cleveland Convention Promises "Knock Outs" in Program of Entertainments

DETROIT, Oct. 8—One of the entertainment features of the National Standard Parts Association convention and show, Oct. 29-Nov. 2, will be a beefsteak dinner for which 1400 steaks will be broiled in 10 minutes at Cleveland Auditorium. Allendorf's, famous Cleveland caterers, will lay fire brick on the lawn at the auditorium in order to install specially built ovens for the occasion.

The beefsteak dinner will precede an intercity boxing show which will be held under the supervision of Jack Kirk, sales manager of the World Bestos Company and well-known in Eastern amateur boxing circles.

Mr. Kirk has arranged bouts in practically all weights. The show promises unusual interest by reason of the fact that the boxers will come from and will represent many cities from which National Standard Parts Association members at the show will have come.

Several of the boxers whom Mr. Kirk has billed participated in the recent Olympic games at Amsterdam. Mr. Kirk, who will referee, has headed the boxing committee of the New York Athletic Club for years and he has refereed hundreds of bouts.

A blanket fire insurance policy for \$100,000 has been placed covering the entire National Standard Parts Association exhibition which will be housed in Cleveland Auditorium, according to R. Macfee, secretary. There has also been placed a public liability coverage with limits of \$50,000 to \$100,000, protecting every National Standard Parts Association exhibitor, visitor and guest, for the entire period of the show.

Sides Reports Good Exports

Business conditions are generally improving everywhere in Europe and the American automobile industry is now well established in all its markets, according to Fred B. Sides, export manager of the Hupp Motor Car Corporation.

Shows Bendix Overhaul

NEW YORK, Oct. 8—The Motor Vehicle Repair Association of New York held a meeting last week at the offices of Wheels, Inc., where a complete demonstration of the overhauling and repairing of Bendix brakes was given by an engineer of the Bendix company. About 150 members of this association, representing independent repair shops in New York City, were present at the meeting. Following the demonstration a regular business meeting was held at the association rooms, 154 West Sixty-fourth St.

*"You Don't Mean
to Say it Runs?"
Said the Judge*

The faith of Benjamin Mackofsky, New York motorist, in his ability to operate his motor car won him a suspended sentence. He was charged with parking his car an hour too long.

"Well, the smallest fine I can impose is \$5," said the Magistrate.

"Well, Judge," replied Mackofsky, "I'd rather leave the car."

"Why?" queried the Magistrate. "How much did you pay for it?"

"Four dollars, your Honor."

"You don't mean to say it runs?"

"Sure, it runs fine. It's a 1920 model."

"I admire you for your nerve in trying to make it run. I'll give you a suspended sentence," said the Judge.

McCracken Moves East

LOS ANGELES, Oct. 8—L. J. McCracken, formerly manager of the Los Angeles factory branch of the Willys-Overland Pacific Co., has departed for the East to take charge of sales for the Chrysler Corp. in the Eastern division, which extends from Canada to Florida along the coast.

Triplex Expands in N. Y.

NEW YORK, Oct. 6—The New York Triplex Safety Glass Co., dealer for the National Triplex Safety Glass Co., has opened a service station and office at 253 West Sixty-fourth St. This gives headquarters with approximately twice the capacity of the former station and also includes more modern facilities for the handling of Triplex glass.

Gardner Sales Up 79%

DETROIT, Oct. 6—Gardner Motor Co. in September produced the largest number of automobiles for this particular month in the history of the company. September showed an increase of 79 per cent over September, 1927, making it necessary to carry forward into October more orders that could not be filled in September, than were shipped in the entire month of October, 1927.

Truxler Sales Manager

LOS ANGELES, Oct. 8—Roy Evans, distributor of Ball & Ball carburetors for California and Arizona, announces the appointment of Gene Truxler as sales manager.

Gasoline Nearing Uniform Quality

Department of Commerce Points Out This Increasing Tendency

WASHINGTON, Oct. 6—A tendency toward standardization in volatility of gasoline sold in summer and winter is noted by the Bureau of Mines of the Department of Commerce, according to a public announcement of the department. Gasoline marketed in the United States during the past summer was more volatile than gasoline sold during the summer of 1927 but less volatile than the gasoline marketed in January, 1928. Variations in the volatility, however, are tending to diminish with a tendency toward a standardized product, the bureau finds.

Oil Meets Fuel Test

WASHINGTON, Oct. 6—Preliminary reports of the test of a new German invention providing for the use of crude petroleum as a motor fuel, made under the supervision of the Royal Automobile Club of Great Britain indicates a satisfactory performance of the truck with crude oil used as fuel, according to advices to the Department of Commerce from its London office.

The first of a series of tests was made with the engine burning crude oil over a distance of about 50 miles, the total load including truck and trailer weighing about 20 tons and the speed averaging eight miles an hour.

Nash-Breyer Awards Bonuses

LOS ANGELES, Oct. 8—The Nash-Breyer Motor Co., Nash distributors for southern California and Arizona, has again observed its yearly practice of rewarding its employees of one year or more service with a cash bonus based on a percentage of salary received by the individual.

Kull Joins Reo Staff

DETROIT, Oct. 6—A. E. Kull has been named sales promotion manager of the Reo Motor Car Company and will assume his duties Nov. 1. This is a newly created position. Mr. Kull has been manager of the Reo-Kull Motor company of Oklahoma City since January, 1927, and has been with Reo six years.

Velie Motor Sales in L. A.

LOS ANGELES, Oct. 8—E. H. Rupert and Robert Smith, who have had considerable experience in motor car merchandising in Montana, have been appointed southern California distributor for the Velie line of automobiles and have established a salesroom here. They are operating under the firm name of the Velie Motor Sales.

Hupp Rounds Out Twentieth Year

Anniversary Finds Company With New Century Cars Breaking All Records

DETROIT, Oct. 8—Rolling up a new all-time September production and shipment record, the Hupp Motor Car Corp. last week rounded out the twentieth year of its business. In its first year's operation, 1908, the total production was 1618 cars. In 1928, the twentieth year of the company's existence, there have been individual weeks in which that first year's production was surpassed.

Announcement on Oct. 1 showed that September, 1928, was the eighth consecutive month in which shipments exceeded any corresponding period of the company's history, reaching a total of 6536 cars. The number was 65 per cent greater than in any previous September and 166 per cent greater than in September, 1927.

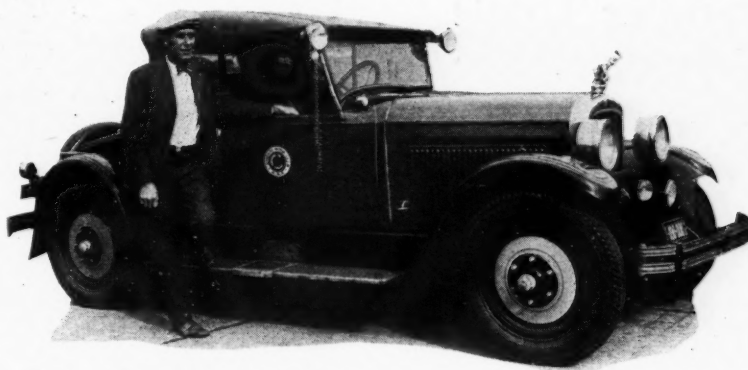
In the first nine months of 1928, according to the announcement, shipments were 56,992 cars, a figure not only 91 per cent more than the shipments for the first nine months of last year, but actually 38 per cent more than the shipments for the entire year of 1927.

Black & Decker Sales Up 25.5%

TOWSON, MD., Oct. 6—S. Duncan Black, president of Black & Decker Mfg. Co., reports net sales for the quarter ended Sept. 30 as 25.5 per cent larger than for the same quarter last year. Domestic business is well ahead and Canadian and export fields generally also show increased business. Net earnings for the fiscal year ended Sept. 30 were at the rate of \$3.35 a share of common stock. Prospects for the coming year were reported bright by Mr. Black.

Graham-Paige Signs Dealers

DETROIT, Oct. 8—New Graham-Paige dealer franchises have recently been signed, as follows: Monticello Motor Sales, Monticello, Ill.; Clark-Hutchinson Motor Co., Sedalia, Mo.; Holderman Motor Sales, Wheeling, W. Va.; C. P. K. Motor Co., Burlington, N. C.; Smith Bros. Motor Co., Grandy, Minn.; Blaha Garage, Sidney, Neb.; F. H. Denicke, Mauston, Wis.; Central Garage, Florence, Wis.; Hoke Motor Co., Richland Center, Wis.; Rowe Motor Sales, Iron River, Wis.; Stewart Auto Co., Hartford, Ala.; Jones Motor Co., Gainesville, Ga.; Central Garage, Stambaugh, Mich.; Theo. Tellefson & Son, Rockdale, Wis.; Knute Olson, Seneca, Wis.; Beske Bros., Hector, Minn.; Pioneer Garage, Fertile, Minn.; Bright Motor Sales Co., Elizabeth City, N. C.; Duckwall Motor Sales, Inc., Noblesville and Anderson, Ind.; Wylie and Aselstine, Leamington, Ont.



Pioneer of Tourist Trails

JACK "MILLION" GRAHAM has covered and logged more than a half million miles of main highways in the United States, Canada and Mexico for the benefit of members of the Chicago Motor Club and American Automobile Association. He is now engaged in laying out fall and winter tours from Chicago through the Southwest to the Pacific coast and return via the Yellowstone. The club has used three Nash cars for this work

Willys Sales Reach 75,000

DETROIT, Oct. 6—Sales of Whippet fours and sixes and Willys-Knight sixes in the third quarter, almost doubled those of the same quarter last year. This is the largest third quarter in the company's history. During the past three months 75,000 Whippets and Willys-Knights were sold as compared with 39,000 sales during the third quarter of 1927. September was also the ninth consecutive record-breaking month this year with sales more than double those of last September.

Because of the record increase in sales the company's dealer organization has shown the greatest increase ever experienced in a single year, adding more than 1800 dealers in the past eight months.

How's This for Specialization?

LOUISVILLE, KY., Oct. 6—J. Garland Lea, secretary of the Louisville Automobile Dealers Association, has been named secretary of the Louisville Secretaries Conference, an organization composed of professional secretaries of various business organizations, which employ paid secretaries. The purpose of the organization is to enable the secretaries to become better acquainted with various problems, so that they can better aid the organizations they represent.

Adds Dodge Brothers Line

COLUMBUS, Oct. 6—The Zimmerman-Miller Co., formerly distributor for the Whippet and Willys-Knight, has been made central Ohio distributor for the Dodge Brothers line. The company will also distribute the Graham line of trucks. The former distributor, the H. L. Harbison Co., has been merged with the Zimmerman-Miller Co. Charles Zimmerman is at the head of the company.

Opens Raleigh Branch

RALEIGH, N. C., Oct. 8—The Dorris-Greene Motor Co., Inc., state distributor of Whippet and Willys-Knight automobiles, with headquarters in Charlotte, has opened a branch in Raleigh, with C. W. Greene, president of the company, in charge. J. B. Dorris, vice-president of the company, will remain with the Charlotte office. A. H. Greene, secretary-treasurer of the corporation, has moved from Atlanta to Raleigh. W. G. Jones will have charge of the wholesale department and E. B. McManus will be in charge of retail sales.

De Soto Near 500 Daily

DETROIT, Oct. 8—Production of the Chrysler-built De Soto Six reached nearly 500 cars a day by the end of September, C. W. Matheson, De Soto vice-president in charge of sales, reports.

Sisson Wholesale Manager

LOS ANGELES, Oct. 8—M. R. Sisson, who has been in the automobile business on the Pacific Coast for the last 18 years, has been appointed wholesale manager for the White Auto Co., distributor of the Auburn line in southern California.

Form Chevrolet Company

RALEIGH, N. C., Oct. 8—Sir Walter Chevrolet Co., a new concern, has taken over the Chevrolet agency in this city, formerly held by Rawls Motor Co. The Rawls company now has the Graham-Paige contract. The Chevrolet company has been capitalized at \$100,000. W. C. Pilley will be manager of the business and associated with him are E. O. Anderson, Charlotte banker, and Fred Anderson, Charlotte automobile dealer.

September Totals Exceed '27 Levels

Factory Outputs Show Large Increases Over Operations Last Year

DETROIT, Oct. 6—Reports on September production by leading manufacturers show large increases over September last year but lower totals than in August this year. The decline from August in most instances is small and to some extent is accounted for by fewer working days, this being emphasized by the fact that some factories were unable to meet all their orders.

Chevrolet Motor Co. built 105,616 in September as against 62,015 in September, 1927. Production in the first nine months now totals 1,100,723 as against 652,754 in the same period last year. Large scale operations will be continued in October.

Studebaker Corp. of America built 12,500 in September as against 15,000 in August. Nine months' production now exceeds the entire year 1927.

Buick Motor Co. built 26,742 units in September as against 27,000 in August. The October schedule is for 28,000.

Graham-Paige Motors Corp. production in September was 6700 as against 11,200 in August. Production for the first nine months totals 65,486 against 21,881 for the entire year 1927. The third quarter total was 26,742.

Hupp Motor Car Corp. shipped 6536 cars in September as against 7023 in August and 2456 in September last year. Nine months' shipments total 63,919 as against 29,906 in the 1927 period. The company carried 1400 orders into October.

Hudson Motor Car Co. shipped 20,000 cars in September against 22,000 in August. Shipments for the year to date approximate 250,000, a 10 per cent gain over the 1927 output.

Cadillac Motor Car Co. shipped 5000 cars in September, approximating the August rate. Capacity production will be continued in October and November.

Olds Motor Works shipped 9301 units in September as against 7773 in August and 7127 in September last year.

Nash Motors Co. shipped 20,606 units in September, an increase of 8700 over September last year.

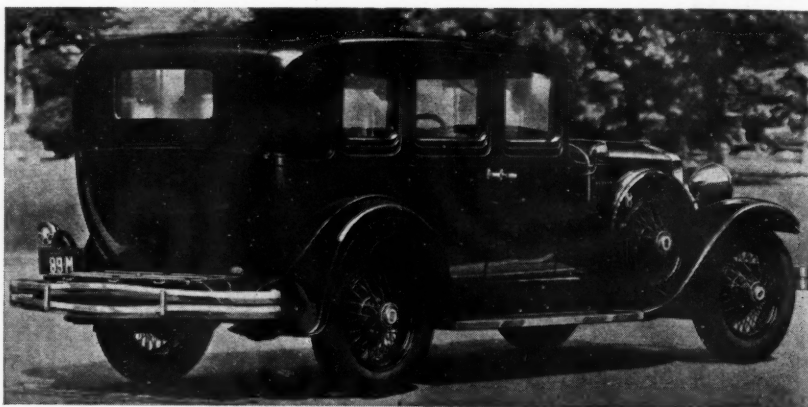
Oakland Motor Car Co. shipped about 18,000 cars in September, bringing the nine months' total to about 224,000.

Packard Motor Car Co. built about 5000 cars in September and is continuing at this rate.

Reo Motor Car Co. built 3711 units in September as against 4823 in August. October schedule is for 4000 units.

New Oldsmobile Agency

DES MOINES, Oct. 6—Sam Mosebach and W. A. Owens have organized the Mason City Oldsmobile Co. which have agency for distribution of the



Hupp "8" Town Sedan

A five-passenger town sedan has been added to its eight-cylinder line by the Hupp Motor Car Corp. Listing at \$1,985, this model carries the same standard equipment as other body types. The body is custom built by Raulang, and in comparison with the standard eight-cylinder sedan provides more room in the rear compartment

Oldsmobile in Mason City, Iowa, and six surrounding counties. The two partners were formerly connected with the Means-Oldsmobile company of Des Moines and have had long years' experience in the automotive industry.

Pierce-Arrow Has Big Month

BUFFALO, Oct. 6—A high record for Pierce-Arrow sales, in both the passenger car and truck lines, was established during September, according to an announcement by company officials. Passenger car shipments showed a 43 per cent gain over September of last year. With one exception, the past month has been the greatest in Pierce-Arrow history. And, at the same time, despite larger shipments, Pierce-Arrow has approximately three times as many unfilled orders on its books as it had one year ago.

Changes in Black & Decker

TOWSON, MD., Oct. 6—R. W. Procter of Black & Decker Mfg. Co., has been placed in charge of all sales promotion for that company in both the automotive and industrial fields, and W. C. Allen, who heretofore has been in charge of sales management in the industrial field, will manage sales in both industrial and automotive. The organization adjustment permits Mr. Allen and Mr. Procter to specialize for both divisions in fields of endeavor in which they have been exceptionally successful.

Tire Insurance Successful

DAYTON, Oct. 6—"Tire insurance is increasing sales" is the statement issued by the tire insurance department of the Dayton Rubber Mfg. Co.

Tire insurance as handled by the Dayton company for its dealers, insures the white sidewalled red stripe tires for 15 months, and all black "Thorobred" tires for 12 months, for passenger cars only.

A.E.A. to Discuss Selling

CHICAGO, Oct. 8—The thirteenth annual convention of the Automotive Equipment Association, Oct. 22-27, while devoting considerable time to discussion of new problems facing the Motor & Equipment Association, recently formed by the completion of merger proceedings of the A. E. A. and the Motor & Accessory Manufacturers Association, will keep as its theme the discussion of new merchandising and distribution problems and their relations to the various interests in the automotive equipment field, it has been announced by the committee in charge.

Peerless N. Y. Adds Dealers

NEW YORK, Oct. 8—C. M. Zimmerman, Peerless New York branch manager, reports that six established New York dealers took on the Peerless line during September. They are: Forber Motor Corp., New York; Jordan Bronx Service Co., Inc., Bronx; Port Morris Motor Sales Corp., Bronx; North Shore Peerless Co., Corona; Mance Motor Sales, Jamaica; Dorlan Sales & Service, Baldwin. Mr. Zimmerman has also announced that E. H. Fagnan, who has been with Peerless for the last 23 years, both in the engineering department at the factory and with various Peerless branches, has been appointed service manager for the New York branch.

Graham-Paige Plant Entertains

DETROIT, Oct. 6—Approximately 160 dealers and salesmen, comprising the selling organization of the Graham-Paige Co. of Michigan, were guests at a fall meeting and luncheon at the Graham-Paige factory. Speakers were J. M. O'Dea, general manager; Joseph B. Graham, president; Robert C. Graham, vice-president; E. R. Valpey, general sales manager; J. D. Biggers, vice-president of the Graham-Paige International Corp., for the factory, and Lansing Thomas, sales manager, for the Detroit branch.



Reo Field Force at Factory

Branch managers and traveling representatives of Reo Motor Car Co., met at the factory in September. C. E. Eldridge, general sales manager, outlined sales policies for 1929. Branch managers present were B. M. Taft, Detroit; C. F. Watson, Atlanta; W. P. Bates, San Antonio; H. E. Woodward, Los Angeles; E. A. Smith, San Francisco; R. H. Hilty, Dallas; J. K. Reed, Lansing; George Stowe, New York; F. G. Vincent, Kansas City; George Stout, Birmingham; John Graham, Jacksonville; A. E. Kull, Oklahoma City, and J. H. Lemons, Houston.

Erdman Eastern Manager

NEW YORK, Oct. 6—W. K. Erdman, formerly division manager of Eastern branches of the Studebaker Corp. of America, has been appointed manager of the New York retail branch, succeeding E. J. Murnane, who has resigned.

Mr. Erdman will assume his new duties immediately. He has had broad experience with Studebaker and prior to his appointment as manager of Eastern branches served as manager of the Philadelphia branch of the corporation.

Ballot Helps Gardner Sales

ST. LOUIS, Oct. 6—The "Ballot Week" plan recently put into effect by the Gardner Motor Co., Inc., to introduce its three new 1929 series, has given much impetus to sales on the new line, according to reports received by the factory from distributors and dealers over a wide area, says R. E. Lynes, assistant sales manager.

Tire Dealers Show Progressing

BOSTON, Oct. 8—At a meeting today of the general committee in charge of the plans for the annual convention of the National Tire Dealers Association to be held here Nov. 19-22, Chairman James A. Travers announced that this would be probably the largest gathering of men in the trade ever held. Reports showed that a special train is

coming from Chicago bringing delegates from the Pacific Coast, Middle West and Southern States, while the New York, Philadelphia and New Jersey group have chartered a special steamer to bring them here. Some idea of the interest shown in the convention was evident in the report of committees. The chairman reporting for the exhibition group stated that all the space allotted for displaying tire and accessory devices in the big room leased for that purpose in the Hotel Statler had been sold. Though tire makers keep out of the motor exhibitions, in this case they will cooperate.

Hold Everything! Should Include Your Radiator

KANSAS CITY, MO., Oct. 6—Almost everything has been reported stolen from a parked car by victims of that type of robbery, but it remained for Paul C. Leffel to report the theft of the radiator of his new Chrysler sedan while parked near Thirtieth and Troost Avenue here. Leffel was told by insurance agents his was the first radiator reported stolen.

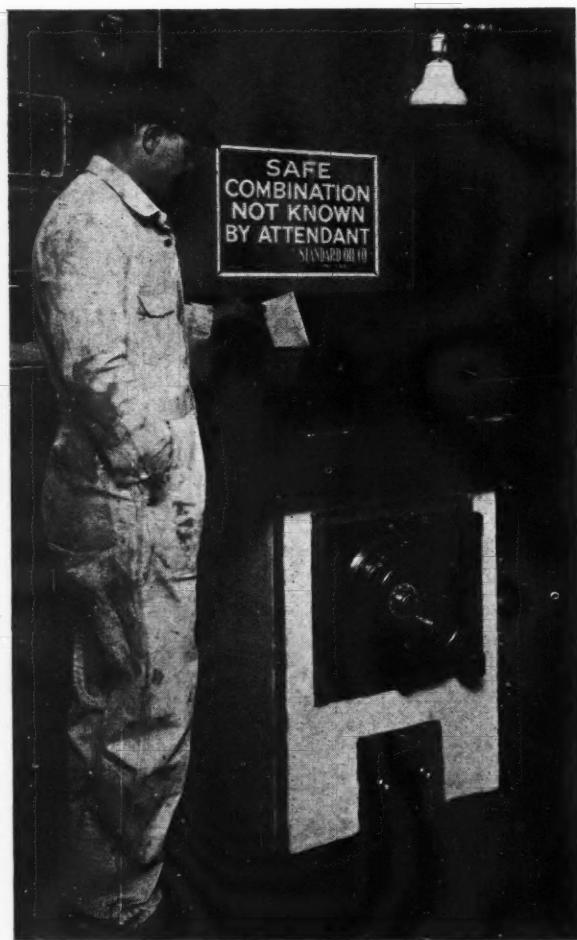
Toledo Asso. Names Trustees

TOLEDO, Oct. 8—The Toledo Automotive Trades Association has named six trustees to shape policies and carry on the business of the organization for the coming year.

Carl Kinker of the Kinker Motor Sales Co., was named to represent the passenger car division; Arthur Woleben, of the Woleben Motor Sales Co., the truck division; Albert P. Fall, president of the Wel-Ever Piston Ring Co., representing the jobbers' accessory, tire and electrical supply division; T. R. McIntyre, of the McIntyre Tire & Supply Co., the retail accessory, tire and supply division; R. J. Noble of the Noble Garage, the garage division, and T. J. Cooper, secretary of the association, was reelected trustee at large.

Thompson Products Promotes 2

CLEVELAND, Oct. 8—William H. Spire of the Cleveland plant of Thompson Products, Inc., has been named director of engineering, and Richard E. Bissell, chief engineer. Mr. Spire was formerly chief engineer and Mr. Bissell, research engineer, of the company. The new titles are in recognition of services rendered the company and more accurately define the responsibilities of each executive. Mr. Spire has been with Thompson Products, Inc., for 21 years and Mr. Bissell for 10 years.



Safe

A new type of safe as protection against automobile banditry of filling stations has been installed by the Standard Oil Co. in 14 stations. Money is dropped through a slot into a chute leading to the safe when \$10 or more is received in the cash register. The filling station attendant does not know the combination, it being known to the personnel of the armored collection truck only. A sign above the safe says that the attendant does not know the combination. A small drawer of change in the bottom of the safe can be withdrawn by the attendant. The safes, manufactured by the York Safe & Lock Co., weigh more than 500 lb.



Gasoline Maximum Proposed for Racing

International Board Considers Plan to Use New System

PARIS, Oct. 6—A limited quantity of gasoline was proposed as the basis of all major international races, taking the place of the present 91½-in. piston displacement rule, at a meeting of the International Racing Board, held in Paris the week of Sept. 18. The nations represented at this gathering were: France, Germany, Great Britain, Italy, Switzerland, Belgium, Spain and the United States.

Under the new racing rule, which, it is proposed, shall remain in force for three years, the allowance shall be 26.4 lb. of gasoline and oil per 100 kilometers (62 miles). Straight gas shall be used in 1929, but in 1920 and 1931 other fuels may be allowed if they appear likely to come into general use. The cars should weigh not less than 2200 lb., the minimum width should be 39 in., and they must have an external gas tank and no streamlining.

In view of this radical change it was decided to submit this proposal to the various nations interested and to take a final decision at a meeting to be held Oct. 11. The American delegate to the International Racing Board pointed out that Indianapolis had already decided to continue the 91½-in. piston displacement rule. Italy proposed that its national rules for stock car racing should be adopted internationally, but in view of divergences of opinion, it was merely suggested that the national clubs apply these rules in 1929.

The suggestion of the American Automobile Association delegate that flying starts be admitted in world's records for distances of 50 kilometers and upward was not accepted.

Heyler G.M. Des Moines Nash

DES MOINES, Oct. 6—Dan T. Vriesema, president of the Nash-Vriesema Auto Co. of Des Moines and Omaha, has announced appointment of Harry G. Heyler, president of the Heyler-Berdahl Motor Co., Sioux Falls, S. D., Nash distributor, as general manager of the Des Moines branch of his company. Mr. Heyler, who succeeds R. J. Reid, retiring from the business, will remain as head of the distribution agency in Sioux Falls.

Capital Motors Has Body Dept.

COLUMBIA, S. C., Oct. 6—The Capital Motors Co., Inc., of this city, whose slogan is "Everything for a Motor Car," has just added a top and upholstery department. Upholstering, repairing of seats and tops; renewing woodwork and work on bodies; straightening and repairing of fenders—all body work is attended to in this department.

Bendix Triples 1927 Earnings

CHICAGO, Oct. 6—Net earnings for the Bendix Corp. for the nine months ended with September were approximately three times those for the full year, 1927, according to an official statement yesterday. For the nine-month period, with September estimated, net income amounted to \$2,168,000 after all charges including federal taxes.

For the first half of 1928 net income was \$1,393,907 indicating a net for the third quarter of \$774,093 or \$3.44 a share on 225,000 shares of class 'B' stock as compared with \$863,859, or \$3.84 a share, in the preceding quarter.

Special Cars to Convention

PHILADELPHIA, Oct. 6—Philadelphia Boosters and their friends will go to the A.E.A. Convention in special cars on the Capital Limited of the B. & O., leaving Philadelphia, Oct. 20.

Woody G.M. Consolidated Motors

LOUISVILLE, KY., Oct. 8—Albert M. Woody, who has been connected with the George Cole Motor Car Co., Lincoln representatives, has been named as general manager of the new Consolidated Motors Co., which took over the George Cole Motor Co., and its Lincoln agency. The new company represents a corporation composed of all of the Ford agents of the three Falls Cities.

Simonds Worden White Co.

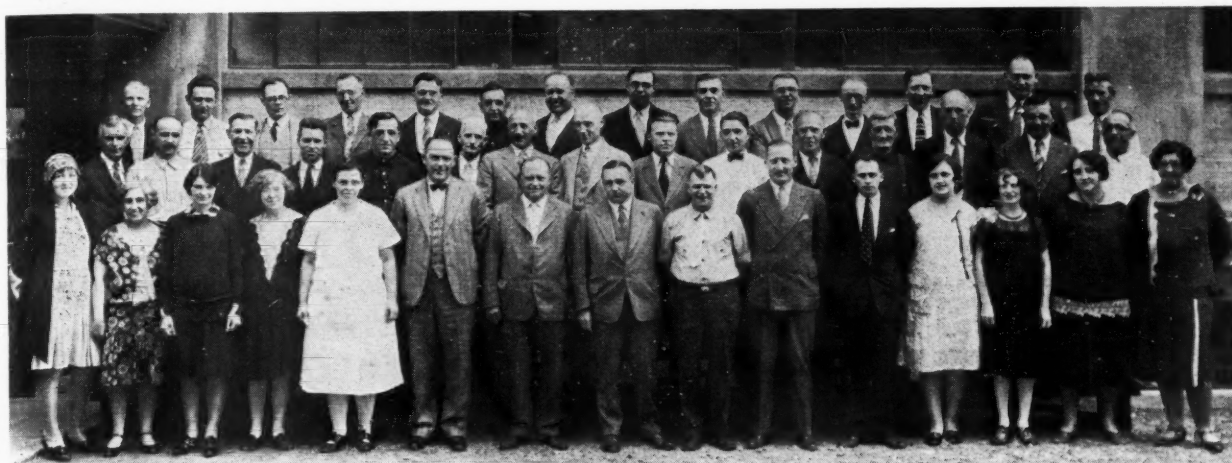
DAYTON, Oct. 6—The Simonds Worden White Co. has been formed through a consolidation of the A. A. Simonds-Dayton Co., this city; L. & I. J. White Co., Buffalo; Worden Tool Co., Cleveland, and R. J. Dowd Knife Works, Beloit, Wis. The consolidation has been effected to give customers better service and to enlarge facilities for meeting customer requirements. All plants will be continued and orders will continue to be received and filled from the plants with which customers have been associated.

Willys Sells 75,000 in Quarter

TOLEDO, Oct. 8—Sales for Willys-Overland Co., in the third quarter were approximately 75,000 cars as compared with 39,000 in the same period last year, it was announced by officials here today. Export trade holds up well and sales volume has been increasing in the last two weeks of September. The factory is still operating night shifts and has shown increased payrolls recently.

Willys Coast Plant Ready Soon

LOS ANGELES, Oct. 6—The new Willys-Overland factory buildings here are to be completed early in October, ready to receive their machinery. The big plant is expected to begin operations by Nov. 1. It will represent an investment of \$1,500,000 and will employ about 800 persons.



Veteran AC Spark Plug Employees

From 12 to 20 years with the company is the record of these AC employees. Lower row center is B. W. de Guichard, president. On Mr. de Guichard's right is E. Frechette, oldest factory employee; next to him is Harlow H. Curtice, vice-president and assistant general manager. In the center row next to the end is W. S. Isherwood, general sales manager.

Borg-Warner Net Exceeds All 1927

Income in First Eight Months
\$3,085,844—Has \$3,400,000
Cash

CHICAGO, Oct. 6—Net earnings of the Borg-Warner Corp. for the eight months ended Aug. 31, 1928, were greater than those of the four companies for which Borg-Warner is the holding corporation for the entire year 1927, according to an official statement.

For the first eight months of this year net income was \$3,085,844 after all charges, equal after preferred dividends amounting to \$53,083, to \$7.39 a share on 410,000 shares of \$10 par common stock. In this year ended Dec. 31, 1927, the consolidated net income of the four companies which make up the Borg-Warner organization amounted to \$3,055,402, which based on the present capitalization is equal after allowing for a full year's dividend requirements to \$6.85 a share on the common.

The Borg-Warner corporation reports cash on hand of \$3,400,000, as compared with \$2,179,851 on Dec. 31, 1927.

Based on the earnings figures for the first eight months of this year net during July and August averaged slightly better than \$1 a share on the common stock. In the first half of 1928, net income was equal to \$5.32 a share on the common stock.

Sieg Co. Organizes Associate

OTTUMWA, IOWA, Oct. 6—Sieg Co., Davenport, Iowa, has organized the Sieg-Ottumwa Co., an associate corporation, to handle its wholesale auto replacement accessory business. The new corporation has acquired the entire

automobile accessory stock of the Harper-McIntire Wholesale Hardware Co. and will add that supply to its stock. A. C. Volkens, formerly of Davenport, is vice-president of the Ottumwa company and will manage the business; J. W. Sollinger, Davenport, is president; R. R. Englehart, Davenport, treasurer, and H. R. Bartlett, Davenport, secretary.

Opens New Equipment Store

SEATTLE, Oct. 6—The Northwest Auto Equipment Co. is now established in a spacious new store at 1001 East Pike St. This company, organized in 1920, has absorbed some 14 accessory concerns since its formation. Among the leading lines distributed and serviced are Gabriel snubbers; Houdaille hydraulic shock absorbers, Pines Winterfronts; Fafnir ball-bearing spring shackles; Potter all-steel trunks; Universal racks; Kari-Keen Karriers; Golden Gate brass products and De Luxe wind wings.

Distributor Flies Balloon as Sales Advertising Stunt

The Smith Motor Co., Oakland-Pontiac distributor in the Oklahoma City territory, gained considerable publicity for its cars by moving a balloon above its salesrooms. The balloon with the lettering Oakland-Pontiac Sixes could be seen for several miles around the city and proved such a success that the company has decided to use the balloon throughout the entire state of Oklahoma, renting it out to dealers.

G.M. Style Show Awaits Opening

Annual Detroit Merchandising Event Will Run From
Oct. 13 to 20

DETROIT, Oct. 6—General Motors Corporation will hold its annual fall style show in the General Motors building Oct. 13 to 20. The show opens every morning at 10.30 o'clock and remains open each evening until 10 o'clock, excepting Sunday, Oct. 14, when it will be closed.

The entire ground floor will be utilized for the display. Besides all the showrooms of the various passenger car divisions of the corporation the two rooms at either side of the auditorium will be devoted to a display of trucks while in the auditorium besides motor cars six new frigidaire models will be shown. Elaborate decorations are being worked out by George Wittbold of Chicago. The decorative scheme will be carried out both inside and outside the building and will form the setting for the 83 motor cars which will be on display. A special feature will be music afternoon and evening by George Olson and his 20-piece orchestra.

Eldridge Party Visits Plant

SEATTLE, Oct. 6—Seventy Buick dealers and Eldridge-Buick officials from this territory have left for a two-weeks' trip to the factory at Flint. Every important city and town of Washington and northern Idaho is represented in the party. Thirty of the dealers are making the trip as guests of the Eldridge organization, being winners in a sales contest.

Oakland to Train Men for Service

Course Alternates Between Flint Technical Institute and Factory

PONTIAC, Oct. 6—Oakland Motor Car Co. is opening a new department of instruction in the General Motors Institute of Technology at Flint. The department will be known as the co-operative Oakland - Pontiac service course and will train young men in service work in the same manner as the present management engineering co-operative course trains them in factory management and engineering.

The company has selected 50 students from all sections of the country who have been presented by local dealers. They must be high school graduates and will spend four years in the course, alternating between four weeks study at Flint and four weeks actual experience in the Oakland-Pontiac factories at Pontiac.

Oakland officials who will direct the work in the factories are: President, A. R. Glancy; vice-presidents, W. R. Tracy and Gordon Lefebvre; E. H. Kramer, director of personnel; R. A. Armstrong, service manager; J. H. Otis, assistant service manager, and R. A. Andree, director of education.

Grier Returns to Eldridge

SPOKANE, Oct. 6—Sherman Grier recently joined the sales force of Eldridge Buick Co., Spokane. Mr. Grier was with the company from 1919 to 1925 and left to become affiliated with another house.

Returns to Franklin



Frank H. Sanders

Pioneer salesman, dealer and distributor, has returned to the Franklin Automobile Company as distributor in the Chicago territory. Mr. Sanders entered the service of the Franklin company in 1902 and from 1911 until 1922 was the distributor there. Showrooms have been established at 2000 Michigan Ave., where both wholesale and retail business will be handled. The new distributing firm will be known as the Franklin Motor Car Company, and Mr. Sanders is sole owner. His return to the row comes after six years of retirement.

Distributor Occupies New Bldg.

TOLEDO, Oct. 6—The new \$130,000 home of the Rosenberger Motor Sales Co., distributor for Oldsmobile, was opened to the public today. The company has increased sales of the Oldsmobile here more than 500 per cent since 1927.

Federal Produces New Fast Truck

High Performance Controlled by Westinghouse Booster Brake

DETROIT, Oct. 6—Announcement is made by the Federal Motor Truck Co. of the introduction of a new 3 to 3½-ton truck of high performance characteristics powered with the recently developed Continental valve-in-head motor. While the new truck, designated as Model 3C6, is capable of road speeds of 40 m.p.h. or better, it should not be designated as a high speed truck as this term is generally understood. In its design it is a heavy duty model throughout with excessive safety factors. High performance is due in main to the unusually high power of the engine, which develops 84 hp. at 2200 r.p.m., its governed speed, in conjunction with a 7-speed Brown-Lipe transmission. Such high performance for a heavy duty truck naturally requires exceptional braking ability and on the Federal 3C6 this has been worked out by combining the Timken internal brakes on the rear wheels with a Westinghouse vacuum booster connected with the foot pedal. It is supplanted by a hand operated emergency brake located on the rear end of the propeller shaft, in this respect following usual Federal practice.

Cadillac Dealer Opens Branch

GREENFIELD, MASS., Oct. 8—Jerry Duryea, Inc., Cadillac and LaSalle distributor in Springfield, has opened a retail sales branch and service station here.

The Automotive Calendar

SHOWS

Automotive Equipment Association, Coliseum, Chicago, Oct. 22-27.
Baltimore, 5th Regiment Armory, Jan. 19-26.
Boston, Mechanics Bldg., March 2-9.
*Chicago National, Coliseum, Jan. 26-Feb. 2.
Cincinnati, Music Hall, Jan. 13-19.
Cleveland, Public Auditorium, Jan. 26-Feb. 2.
Denver, Colo., Auditorium, Feb. 11-16.
Des Moines, Iowa, Coliseum, Feb. 18-23.
Detroit, Convention Hall, Jan. 19-26.
*Hartford, Conn., State Armory, Feb. 16-23.
Kansas City, Mo., American Royal Bldg., Feb. 9-16.
Los Angeles, Washington Park, March 2-10.
Louisville, Ky., Armory, Jan. 21-26.
Milwaukee, Wis., Auditorium, Jan. 12-19.

National Standard Parts Association, Cleveland Auditorium, Oct. 29-Nov. 3.
Newark, N. J., Jan. 12-19.
*New York, National, Grand Central Palace, Jan. 5-12.
Peoria, Ill., Feb. 5-9.
Philadelphia, Commercial Museum, Jan. 12-19.
Quebec, Can., Drill Hall, Mar. 16-23.
Salon, Automobile Salon, Inc., Hotel Drake, Chicago, Jan. 26-Feb. 2.
Salon, Los Angeles Motor Car Dealers Assn., Biltmore Hotel, Oct. 17-20.
Salon, Automobile Salon, Inc., Hotel Biltmore, Los Angeles, Feb. 9-16.
Salon, Automobile Salon, Inc., Hotel Commodore, New York, Dec. 2-8.
Salon, Automobile Salon, Inc., Palace Hotel, San Francisco, Feb. 23-March 2.
San Francisco, Civic Auditorium, Jan. 26-Feb. 4.
Springfield, Mass., Municipal Auditorium, Feb. 25-March 2.
St. Louis, City Market Bldg., Feb. 4-9.

Syracuse, Feb. 4-9.
Ottawa, Canada, Feb. 4-9.
Pennsylvania Automotive Association, Allentown, Pa., Oct. 15-16.
St. Armory, Feb. 13-16.
*Washington, D. C., Washington Auditorium, Jan. 7-12.
Providence, R. I., Cranston

CONVENTIONS

Automotive Equipment Association, Coliseum, Chicago, Oct. 22-27.
National Standard Parts Association, Hollenden Hotel, Cleveland, Oct. 29-Nov. 3.

S.A.E.

Detroit, Book-Cadillac, Annual Meeting, Jan. 15-18.
Newark, Robert Treat Hotel, Transportation Meeting, Oct. 17-19.
New York, Annual Dinner, Hotel Waldorf-Astoria, Jan. 10.
*Will have special shop equipment exhibit.

Nov. 17—Production and Factory Equipment Issue—Automotive Industries.

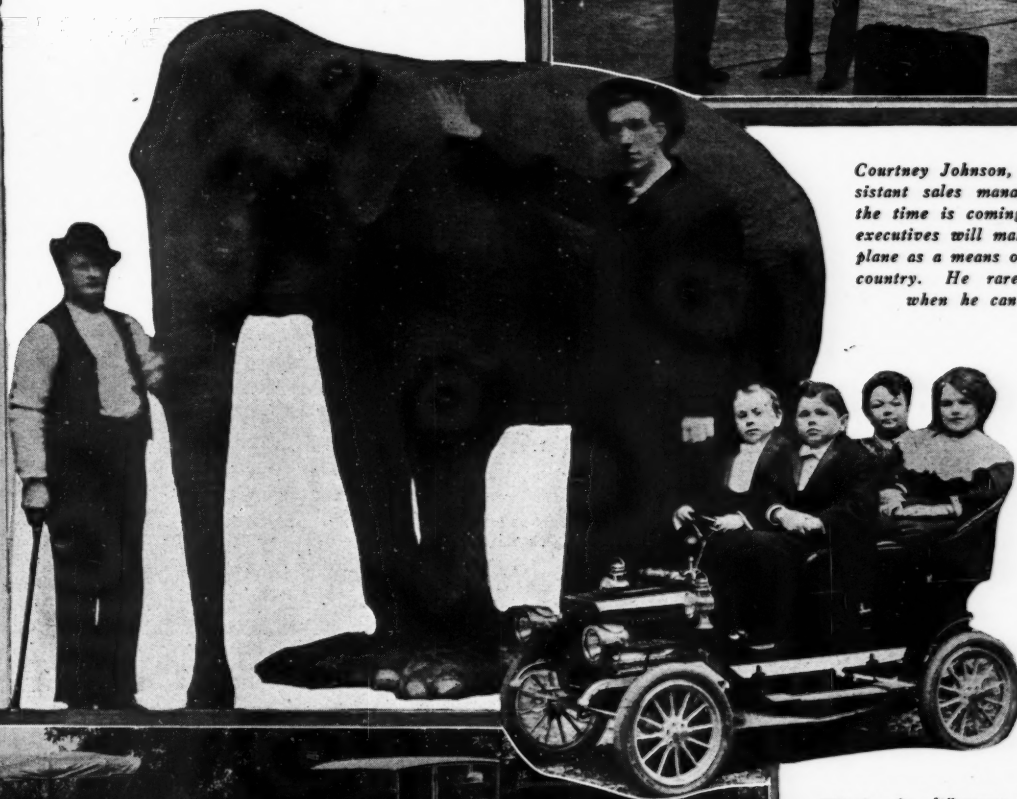


Here's how it's done. Get your neighbor's car, remove the rear tire—first jacking the wheel, —attach in a workmanlike manner 1000 feet of iron wire and start her off in second. The wire will wind up, the board will fly through the water, and the pretty girls will have the time of their several lives. That's simple

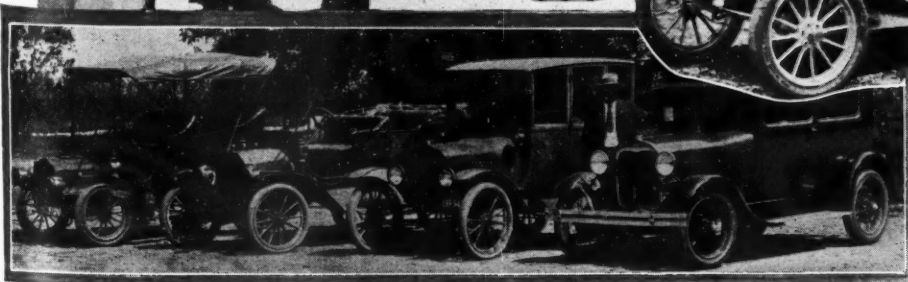
Air Land Water



Courtney Johnson, Hudson-Essex assistant sales manager, believes that the time is coming soon when busy executives will make use of the airplane as a means of getting about the country. He rarely takes a train when he can get a plane



What's the difference between an elephant and an automobile? Easy—the elephant can't climb a tree. Pretty good, eh, for the spur of the moment, so to speak. The miniature car in the picture is a—*or* was a—Reo, complete in every detail, according to the announcement of the circus man—and he wouldn't lie, would he?



These Fords are owned by James Nickel, Milford, Ill. He must be the man that put the Ford in Milford—the first one. The vehicle at the left would never hit *nu* more than two cylinders and no one knew the reason until the village plumber, Mr. Eyekittle, looked under the hood and found there were no more.

DISTRIBUTOR *Still*

SEVENTY per cent of the automobile manufacturing companies in business today are relying on a distributor organization as the basis of their merchandising and distribution scheme.

Despite the fact that about eight manufacturers, as they have got into the quantity production class or as they are dealing only in very high-price specialized lines, have found a direct dealer or a branch-to-dealer policy to be more efficient and economical than working through distributors, the distributor continues to be the backbone of the marketing organization of the vast majority of car builders and bids fair to continue a factor of real importance for a long while in the future.

Among the companies which, today, are operating without the use of distributors are to be found such makers as Dodge, Oakland, Chevrolet, Ford and De Soto in the low-priced group. Only a few builders of high-priced cars, notably Rolls-Royce, Lincoln and Cunningham, are selling without distributors. One or two other manufacturers in the quantity production field are looking toward the gradual elimination of distributors.

The fact remains, nevertheless, that today—five or 10 years after some commentators began singing funeral dirges for the automobile distributor as such—40 per cent of the total output of the industry is being manufactured by companies relying mainly on distributors and partly on branches as their chief marketing agencies. It is worth noting, also that some of the companies which have eliminated distributors entirely, so far as terminology goes, have in effect merely changed the type and size of distributor being employed and changed his name to that of dealer. A dealer, having a direct factory contact, who in turn has under him a number of sub-dealers, is in effect nothing more or less than a small distributor. Thus, while the 30 per cent of companies which have eliminated distributors no longer operate through wholesalers having large territories, they are, in many instances, operating through much smaller wholesalers who do a retail business as well. The difference in size as compared to the old distributor is great, but the difference in basic function is relatively small.

There is no question, however, about the disappear-

SEVENTY per cent of the car companies in business today are relying on distributors as a basis of their marketing organization.

* * *

IN 1928 forty per cent of the total car production for domestic consumption is passing through distributors and branches.

* * *

ON Jan. 1, 1928, there were 2889 passenger car distributors in business.

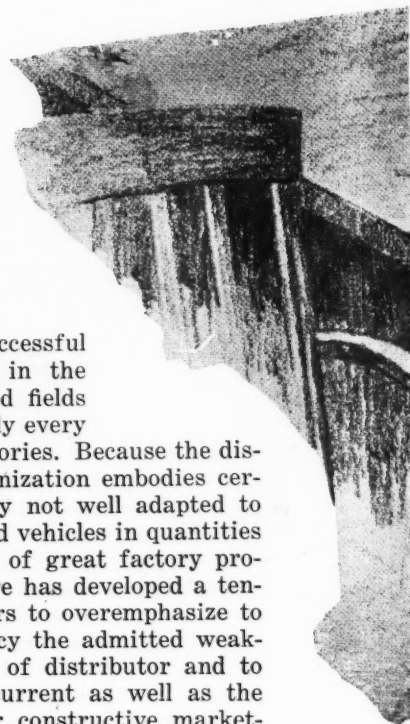
Many Makers Continue to Regard Him as Nucleus of Merchandising Operations

ance of the old type of distributor from the merchandising plans of quantity producers, particularly those in the lower price ranges.

But there are equally strong indications of his continuance by some of the most successful and largest builders in the middle and high-priced fields as well as by practically every one of the smaller factories. Because the distributor form of organization embodies certain factors inherently not well adapted to the sale of lower-priced vehicles in quantities sufficient to take care of great factory production facilities, there has developed a tendency in some quarters to overemphasize to the point of inaccuracy the admitted weaknesses of some types of distributor and to neglect entirely the current as well as the past potentialities for constructive marketing inherent in the utilization of good distributors in particular and of the distributor type of organization in general.

Some recent commentators on the place of the distributor in the automotive selling scheme, for instance, have indicated that the passing of the distributor in most instances has been due partly to a belief of factory executives that their distributors were, for the most part, lazy and inefficient operators who merely collected five to eight per cent for okeying orders from dealers and to a belief on the part of these same executives that the aforesaid five to eight per cent might be saved to the factory by operating on a direct dealer contact plan. One of these commentators, D. G. Baird, writing an article called "Why is an Automobile Distributor?" in the Aug. 25 issue of *Sales Management and Advertisers Weekly*, quotes an anonymous factory executive as saying "Our distributors do practically nothing to earn their discounts. They just sit back and take their rake-off for okeying dealers' orders."

This sentence, as a matter of fact, presents pretty much the gist as well as the point of view of Mr. Baird's discussion of this question. The phraseology of the statement quoted, referring as it does to the distributor's "rake-off," would seem to put the busi-



Is INDISPENSABLE

By Norman G. Shidle

Illustration
by
Ed Reid



"Practically every factory selects for executive sales positions, men who have functioned as distributors or dealers."

ness of wholesaling automobiles in the class of what is usually called a racket in these modern days, and at the same time take it out of the realm of being a legitimate business and distributing function.

While some factory men must feel this way about it, inasmuch as they are quoted quite specifically by Mr. Baird, it is equally certain that other important factory executives feel just as strongly that the distributor is the means by which their business has been built, the powerplant by means of which it is now running and a most important factor in creating the impetus which will enable them to continue successfully in the future. This is not to say that there is any factory man to be found who has no criticism whatever to make of distributors, just as we have yet to find a distributor who has no criticism to make of the factory for which he is operating. It does mean, however, that a large majority of automotive executives today still feel that the distributor will remain a distinct and vital part of their merchandising scheme for a good many years to come.

"Why, we would be in a fine mess if it weren't for our distributors," the president of one highly successful factory organization said only the other day. "It's

pile and then wanted to spend all their time in Florida and California to the detriment of their business and our welfare in their territory. Sometimes we have had to talk very seriously with men on that score. But that has not been true of a majority of distributors and it wouldn't be at all fair to judge the distributor system as a whole on the basis of its results in these few exceptional cases.

"No, we aren't always satisfied with what our distributors do nor with the results which they achieve; but we wouldn't be satisfied with the results achieved through a direct dealer organization, either. With the individual investment which the distributor has in his business, we feel that we have a big asset to help us in working out with that man and with the individual dealers the best means of getting the most out of his territory.

"Sometimes a distributor does fail to make his quota in certain parts of his territory. We will ride him for it, of course; sometimes we will ride him even when we know down in our hearts that he got more than we could have got trying to work direct. No, the distributor on the average has worked out very well for us;

(Turn to page 34, please)

Why Do SERVICE Meetings

WHAT'S wrong with my car? How much will it cost to fix it? When can I get it?"

With such questions to answer, your service contact man must combine a thorough knowledge of the car's construction and a working knowledge of how repairs are made, in order that he may be able to figure the cost and the time required to do the work.

Flat rate publications have done a great deal to make this end of service salesman's job easier, but even with their practicable aid, experience and tact in generous measure are needed for real success in this work. The service salesman must first of all know what he is talking about, but of nearly equal importance, he must possess the diplomacy that will enable him to tell a customer what he needs; he must be tactful enough to refuse without giving offense, to do less than is needed to do the job right.

It is probably a fact that no amount of teaching can show a man how to be tactful. Training may be productive of a certain amount of diplomacy but such characteristics are usually inborn. In the matter of gaining knowledge, however, teaching is all important, and it is this phase of the matter that we want to discuss in this article.

First of all let us take up the very important matter of keeping the service man up-to-date with regard to change of one kind and another in the cars he is servicing. The dealer, with the cooperation furnished by most factories, should be able to do much to help his service men keep up-to-date by passing on to them all service information received. It seems superfluous to mention this but the fact remains that *many service bulletins and service letters never reach the service men.* What is equally unfortunate is the fact that of those service bulletins that do reach the service men, but few are really studied.

What is the remedy for this obviously unfortunate condition? Service meetings, of course. Upon receipt of a new service bulletin or service letter from the factory the service manager, or whoever is responsible for the operation of the service department, should go over it carefully. If there is information that the men should have, a service meeting should be called. To make the

Because They Make It Possible for You to Keep Your Shop Men In Touch With All Changes

meeting interesting it is well to draw from the stockroom such parts as have been changed in any way, or that are under discussion. This will do much to hold attention. The next thing is to make the meetings snappy and to avoid unnecessary

formality. A 20-minute meeting is much better than a 30-minute one, provided, of course, that the subject can be adequately covered in the shorter period.

There is sometimes disagreement as to who should pay for the time used at the meeting—the management or the men. There would seem to be no reason why this should be a matter of contention. Surely the wise mechanic will not begrudge himself the time for the meeting for he will make it up many times over as a result of the better knowledge of his work that such meetings will give him. When men are on an hourly basis they appear to begrudge the time used for shop meetings unless held on shop time. That is hardly fair, for their increased knowledge should eventually make increased pay possible. On the other hand, the organization should benefit immediately from the meetings, so a compromise is frequently effected and the meetings are held, half during working hours and half on the men's own time.

Of course where there is much to discuss, and where, as a consequence, the meeting may take an hour or more, an evening meeting is advisable. Many dealers and service station operators have solved the problem of attendance at evening meetings by serving supper or putting on some entertainment after the meeting. By doing both they assure promptness and prevent leaving before the meeting is over.

To get the men into the meeting and to make them feel that it is *their meeting* a general discussion should be invited. Of course there will be the timid ones with good ideas who will have to be pried from their seats and the talkative ones who will have to be cut short, but such discussions are well worth while. Sometimes a very valuable "kink" is disclosed in such ways.

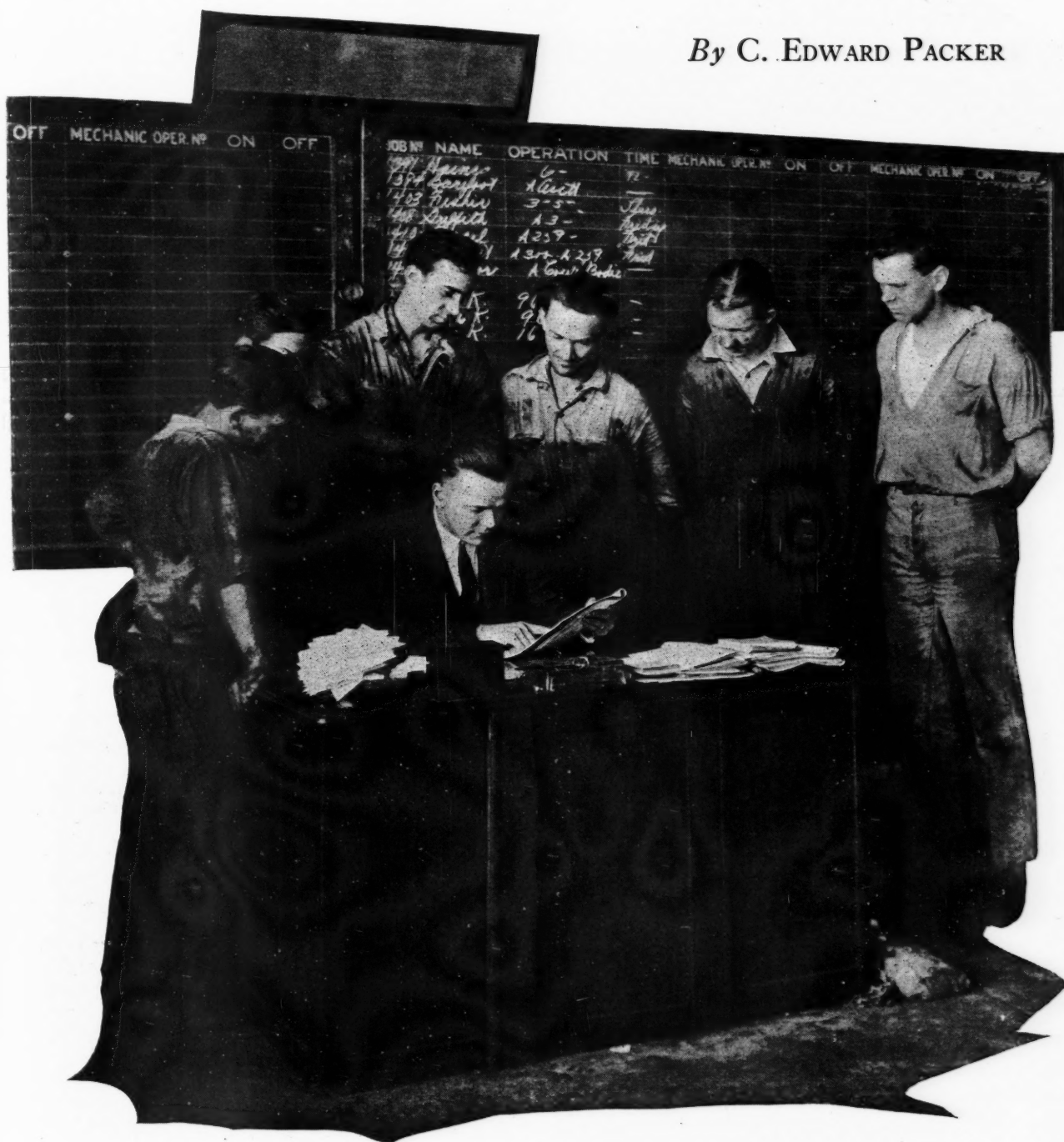
Properly conducted, these

Q The factory, at great expense, maintains a service department, the sole function of which is to help dealers improve their service to customers. But how many dealers take advantage of the opportunity thus freely offered to put money into their pockets? The proportion is small.

Q Start now to use your service bulletins by starting now to hold service meetings. This article tells you how and why.

IMPROVE *Service?*

By C. EDWARD PACKER



meetings not only furnish practical knowledge to be applied to the work, but develop a friendly feeling between men and management that assures cooperation.

Such meetings should not be held in the hope of actually *making* mechanics and service salesmen but for the purpose of making *good* service salesmen and mechanics *better*.

"How much will it cost to fix it?" is a question that can be answered only when the answer to, "What is wrong with my car?" is known.

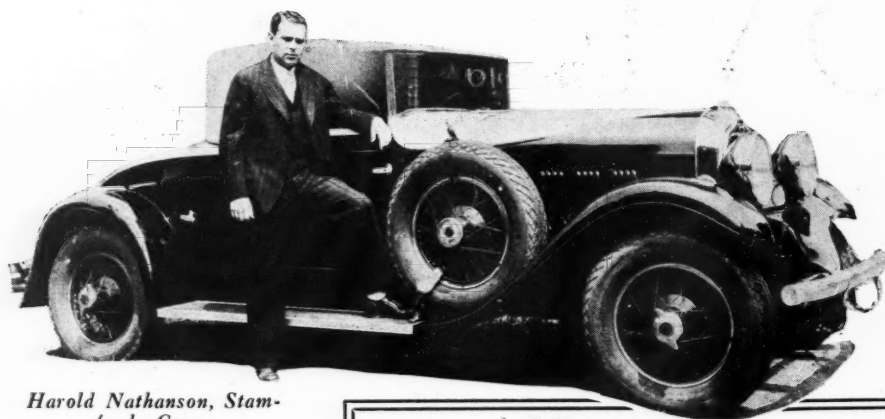
Flat rate tables are valuable, more so perhaps than anything that has come into the industry for years, but the man using them must have enough knowledge

(Continued on page 36)

\$1,000 a Week—

But You Can't Earn That Surface, Say These

By C. J.



Harold Nathanson, Stamford, Conn.

CAN an automobile salesman really make a worthwhile salary?

The general complaint of the man who sells cars is that there isn't enough money in it; too much effort is required for the commissions involved. We hear of the long hours, the futile chasing of prospects and the used car "problem." We hear of the uncertainty of income; and a lot about competition.

The answer to the question as to whether there is BIG money for the automobile salesman who works intelligently and consistently is found, I think, in the experience of the six automobile salesmen referred to in this article; each has averaged more than a thousand dollars for one week's work and their annual incomes are on a par with that of the best salesmen in other lines.

The particular week here was the "Show Me" week staged by Auburn, the purpose of which was to assist salesmen to get prospects. It may be argued that almost anyone might have made \$1,000 under similar circumstances, but the fact that few did would seem to disprove the theory.

Ted Marquard, Cleveland, made \$1,300 on commissions and was given a 76 Auburn Sport Sedan by the factory for selling 33 Auburn cars in one week and making 21 deliveries!

Supersalesmanship or just plain hard work? Let Ted tell it:

"Practically any salesman can duplicate my record if he is willing to work hard and use his head. You've got to forget the theatre and bridge parties and arrange your time at the disposal of the prospect. If he wants to see you at 11.30 p.m., then be there at that time. Never get downhearted because you lose a sale because of a difference of \$50 or \$100. If the

A Brighter Side

YOU read in last week's MOTOR AGE the rather surprising results of a survey of salesmen's salaries. The figures given were depressing—but there's another side to the story. The six salesmen referred to in this article have each made more than \$1,000 in six days—and their yearly earnings are high. That's the trouble with averages—they're right and yet they're wrong, or at least they're misleading. For instance, one salesman plays golf all the time. Another works hard and earns \$8,000 a year—the "average" pay of these two salesmen, is, of course, \$4,000. That's the idea in a few words, so don't worry unduly about what "the law of averages" tells you.

"Whenever I lose a deal because of some little difference of this nature I just go out and hunt up about three more prospects and work all the harder. *One night between 7 and 10 o'clock I took seven orders for Auburn cars.*"

But just hard work won't bring success. The salesman must know his line. Marquard has been with P. W. Ward, Auburn distributor for Cleveland, for a number of years and knows every bolt that goes into an Auburn car. He believes in making an intensive study of the car he is to sell before he ever ap-



Herbert Groff, Indianapolis

That's DIFFERENT

Amount Just by Scratching the Prize Winners

deGoveia

proaches a prospect. Of this he says:

"No prospect should be able to ask any question that the salesman can't answer without consulting a book. You not only must know your own line of cars but you must know a lot about the ones your competitors handle. When a prospect starts comparing cars you must *know* what the other fellow is offering, if you are to convince the buyer.

"The trouble with most automobile salesman, I find, is that they try to sell cars by hot air and exaggerated statements, oftentimes insulting the intelligence of the prospect. Most prospects know almost as much about a car as the salesman. Certainly, they know what they want a car to do."

Marquard's idea of hard



Ted Marquard, Cleveland



work with the use of intelligence is seconded by Art Jackson, salesman for the Chicago-Auburn Company, whose commissions totaled more than \$1,200 for one week.

"I have no particular methods for selling cars. I have faith in the line I am selling, believing it is the greatest line made, but unless I get orders on the books, that doesn't mean a great deal," says Jackson.

"The week that I made \$1,200 in commissions I got down to the office early every day and stayed on the job late. I set my quota of prospects three times greater than I really felt that I would be able to see and strange to say, I kept up with the quota."

Jackson, too, believes that one of the paramount requisites for a salesman is to know his competitor's line as well as his own. He says:

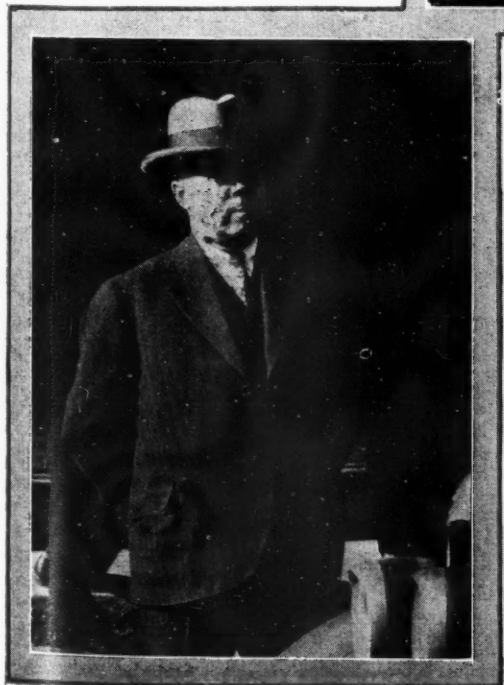
"I make it a practice to know what the other fellow is selling so that when a prospect talks to me about a competitor's line I am not confused. I don't leave anything to guesswork.

"I could do practically as well every week in the year as I did this special week, if I would apply myself. There is nothing personal about that. Any other salesman could do the same if he would get out and hustle. Most of us fellows don't sell more cars because we don't try to."

Herbert Groff, salesman for the Updyke Auto Company, Indianapolis, who won third place in the sales contest and incidentally made more than \$1,000 in commissions, says of his methods of working:

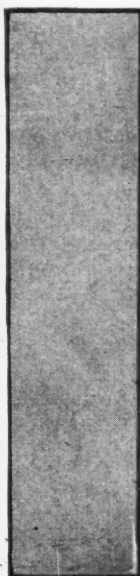
"We automobile salesmen are constitutionally lazy. We make a sale or two and then rest. If we would hit the ball every day of the year as most of us did during 'Show Me' week our incomes would be startling.

"During this particular week I used the same methods of selling that I always do, but I made it a rule to see a lot more prospects. And I worked on



Alex Horton, Albany, N. Y.

Selman Peterson, New York



\$1,000 A WEEK—THAT'S DIFFERENT

them hard. I think that most of us are apt to spend too much time on the hopeless prospect. I have known salesmen to spend days with a prospect and then, later, find that he didn't have the money to buy a car."

Selman Peterson, of the J. A. Jensen Motor Sales of New York City, Auburn distributor, who tied for third place in the contest, emphasizes the need of salesmen "learning to sell cars rather than themselves."

"Of course, the larger acquaintance a salesman has the better off he is," says Peterson, "but most people are buying cars for value today rather than through friendship. The buying of an automobile has become a business proposition. The man who invests wants to know just how much he is going to get for his dollar."

Harold Nathanson of Stamford, Conn., and Alex Horton of Albany, New York, also went over the \$1,000 mark for sales commissions for the week.

"The majority of automobile salesmen get into the business because they think it an easy way to make a living," says Nathanson, "and not a few of them think that the public is waiting to come up and take the cars away from them. This may be right, but in my years of selling cars I haven't had that happen to me."

"While I would place intelligent, hard work as the first requisite of success in selling automobiles, I think that the next one in importance is courtesy. It really doesn't profit you much if you out-talk the customer and bluff him, but don't get his name on the contract."

"I have known a number of very fine salesmen who could do a splendid job selling a car, but who lacked that one quality necessary—to get the customers to sign. A salesman of this type should make a special

effort to learn the secret of convincing the prospect and then apply it.

"Courtesy to the public will bring you back more customers than any other factor. Figure out how you would like to be treated if you were in the market for a car, and then follow out that idea."

Alex Horton, who is also a dealer as well as a salesman, believes that most salesmen spend too much time trying to be "good fellows." "Outside activities often bring in prospects," says Horton, "but sales over a period of years depends on one thing: a worthwhile product and the ability to sell it. Being a 'good fellow' has its advantages, but the disadvantages often outweigh the others. Most of us have bought a suit of clothes because we liked the particular salesman who sold it to us. Unless that suit gave us our money's worth we didn't repeat our order. Outside activities of salesmen are fine, but when they take precedent over the actual job of selling cars, they become a hindrance."

"The one point I have observed about the average automobile salesman is that he lacks initiative to go out and find his prospects—and then sell them. Not a few of them wait until the sales manager gives them a lead."

"Another point I have observed is that a good many salesmen are too easily discouraged. If they fail to make a sale before lunch the entire afternoon is spoiled."

"In my opinion a week such as the Auburn 'Show Me' week is a fine lesson to all automobile salesmen. It proves conclusively that most of us are merely scratching the surface of sales."



THIS sales and service building, of strikingly new character, is owned by H. W. Hoskinson Motor Company, Graham-Paige dealer at Dayton, Ohio. The salesroom differs from the usual, in that the inside simulates the outdoors, with bright awnings extending from the tops of the windows inside the salesroom

His Models MOVE for MOVIE Stars

*Steve Nerney Turns the Table
on the Bright Lights
of Hollywood*

By LOUISE CROWE WETZEL

MUCH has been written and said—and observed—of the feminine influence on the manufacture and merchandising of automobiles. There may be some few disbelievers and scoffers left in the industry; but in Hollywood there is a dealer who believes, and he does not go in for half-way measures.

In the big-open showroom of the Stephen S. Nerney Company, Lincoln dealer, one lone Lincoln is on display; this model, however, is changed daily. Opening off the showroom, but not visible from the floor, is the salon. And such a salon! It is a room 70 by 95 ft.; the concrete floor is stained a soft gray; a rug of rich oriental hues adorns the floor; at one end stands a divan of inviting luxuriousness. Soft lighting effects are employed. Pastel shades of rose blend into amber, browns fade into tan.

In the center of the salon is a revolving table on which a Lincoln stands in solitary splendor, in bold relief against a curtain of rich velvet. Drawn up on either side of the table is a stately guard of eleven

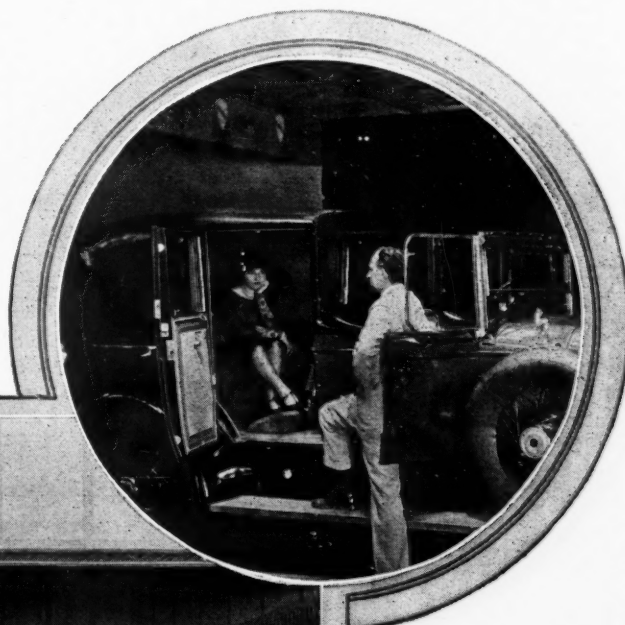
cars. The sides of the salon are lined with every type of Lincoln built.

From a seat on the divan the revolving table can be set in motion or stopped at will, by merely pressing a bulb.

The cost of fitting up this beautiful display was in excess of \$14,000. The interest and admiration the salon has elicited convinces the establishment that the expense is more than justified. All models displayed are a part of the regular stock; none is borrowed for the occasion. Bright lights—stars if you like—from the movie firmament compose a large percentage of the clientele of this establishment, hence the appeal to the languorous senses.

The revolving table applied to the automobile industry is an original and novel plan. For the feminine

(Continued on page 32)



THIS motor salon, embodying the use of a rotating stage, is Steve Nerney's latest thought in automobile merchandising



A Parts Man Asks— *Is the PARTS Man*

THE seven questions in the box at the side of the page contain food for thought. The consensus of opinion relative to these questions would undoubtedly be in the affirmative. Assuming this to be the correct solution, then going a bit further, why is it that the average parts man receives a comparatively small salary in return for his best efforts? A parts man's position is not a kid's job, and it should not be classed a man's job with a kid's pay.

We will save question No. 1 for the last and turn our attention to question No. 2. "Does his position mean anything to a firm?" There are two ways in the writer's mind of interpreting this question. The first way depends largely upon the firm he is working for. Some firms fail to see the importance of a well-managed parts department, therefore a position of this nature wouldn't mean very much; a twenty-five-dollar-a-week clerk is good enough. Cheap help in a service department usually result in dissatisfied customers. The same thing is true of the parts department, as tying up a customer's car unnecessarily for the lack of parts that should be in stock at all times will tend to destroy the good-will of the customer, eventually resulting in a decided loss of business for the entire firm. So much for that view of the situation.

Now let us take the other side of the question. Most firms by now have begun to realize the importance of a parts department, therefore a parts man working for such a company must realize that his position means

A Cold Analysis of the Facts Causes Him to Believe That He Is



something to his firm. Even though the rewards are comparatively small, the nature of the position some day will warrant better recognition. According the best service to every customer, cooperating with the service manager, keeping stock and records up to date, striving to improve the system, aiming for efficiency in every detail, is the probable answer to this side of the question.

Question No. 3 sounds rather interesting, so we will attempt to diagnose it. "Does the service department depend on him to help render efficient service?" A few positive facts will cover this question very nicely. It has been proved that the service department depends on the parts man in the rendering of efficient service. If this were not true why is it then that most every parts department is classed a *part* of the service department coming under the jurisdiction of the service manager? When a service manager takes in a repair job necessitating several new parts, the first thing he generally does is to consult his parts man to ascertain whether these parts are in stock. If they are the repair job is given prompt attention service and the result is a satisfied owner. All in all there is only one feasible answer to this question—the service department certainly depends on the parts department in according efficient service.

Speaking of giving efficient service leads us up to question No. 4. "Does the manner in which the customers are taken care of by the parts man affect the reputation of the firm?" It certainly does. His attitude toward customers means a whole lot. Courtesy on his part promotes good-will and paves the way for future business. Indifference and lack of cooperation drive customers away, not only from the parts window, but also from the service department, and in some instances from the entire organization.

Question No. 4 has paved the way for question No. 5. "Does his cooperation mean anything?" We have just discussed the effect a parts man's cooperation has on customers, so in brief the best answer for this question is this: "A dealer may have the *best* car in the market to sell, the *best* show-room in town to display it in, the *best* equipped service and parts departments, but unless he has *cooperation* in his organization, he is the loser."

Question No. 6 stands out all by itself, ready for the answers to be fired at it, so here goes. "Does the service department suffer or prosper by the execution of a parts man's duties?" What would you say, yes or no? Well I'm going to say both just to be friendly. If a parts man is *underpaid* and acts as a mere clerk, taking an indifferent attitude, assuming no responsi-

Seven Questions

1. Is a parts man fully appreciated?
2. Does his position mean anything?
3. Does the service department depend on him?
4. Does the manner in which customers are taken care of help the firm?
5. Does his cooperation mean anything?
6. Does the service department suffer or prosper by the way he does his work?
7. Does the manner in which his records and stock are kept mean anything?

As Told to Roland E. White

APPRECIATED?

bility, failing to cooperate with the service manager, telling him certain parts are not in stock when they are—only he didn't want to take time to find them—and not keeping his stock and records up to date, then the service department is bound to suffer through the execution of this parts man's duties. On the other hand, if he is just the opposite, seizing every opportunity to improve the service, selling accessories to gain some extra profit for the service department, co-operating in every respect with each and every customer, then the service department will prosper.

Question No. 7, "Does the manner in which his records and stock are kept up mean anything?" A parts man should be just as particular in keeping accurate records of every transaction as a bookkeeper is in balancing books. That's saying a lot in a few words, but it means a lot. Unaccounted for losses checked up against a parts department soon run up into money. Most parts men take great pride in their department and insist that their records be kept up to date. In this manner they are co-operating with the service manager, for they are able to keep an adequate stock of current parts and accessories on hand at all times, and can give efficient service, which counts today more than it ever did.

We will suppose that a parts man didn't keep his records or stock up to date. The service department would be greatly handicapped and possibly five or six big repair jobs would have to lie idle in the shop awaiting parts which should have been carried in stock. If the mechanics are on a flat rate basis they will also suffer. And what about the customer? Will he stand for this kind of service? Not for long.

The writer recalls a case in point. A certain large firm handling a popular make of car was called upon to supply a small part which should have been carried in stock. The parts man regretted not having it on hand, but promised to have it in a week. It took just five weeks to procure this particular part from the factory. Picture in your own mind how the owner felt about such service. Here is how it worked out. This customer used his car for business purposes. It

GOOD parts men ARE appreciated. There aren't enough of them for it to be otherwise. They have their grievances, though, and MOTOR AGE is pleased to allow space for one of them to tell how good he really is and why he merits more consideration.



was in the rush season and after hiring taxis for a week, he took the matter up with the boss, after being told his car was still tied up in the repair shop waiting the necessary part. The boss realized the situation at once and to keep his good-will offered him a good used car to drive until this part arrived. The car ran for a couple of hours and quit. So did the customer. He got his brother's car and towed him home. The same thing has happened, with variations, a hundred times.

Now we return to question No. 1: "Is a parts man fully appreciated?"

From what you have just read you will grant that a
(Turn to page 36, please)

New Oakland

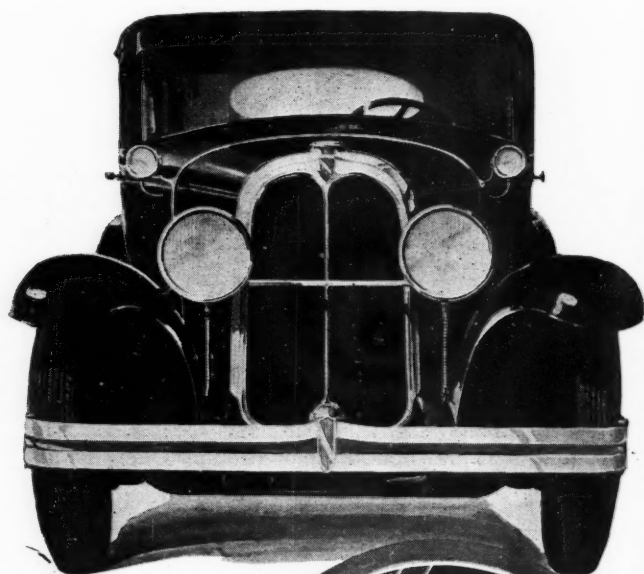
*Performance
Improved
and
Passenger
Comfort
Increased*



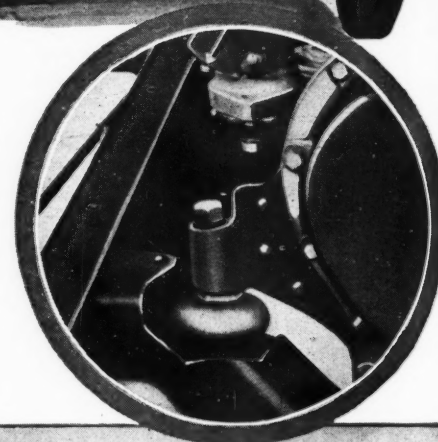
By ATHEL F. DENHAM

STEELDRAULIC internal four-wheel brakes, an increase of $\frac{1}{8}$ in. in cylinder bore, a different harmonic balancer, larger counter weights, lighter semi-steel pistons and new bodies with improved lines are features of the new Oakland cars announced this week.

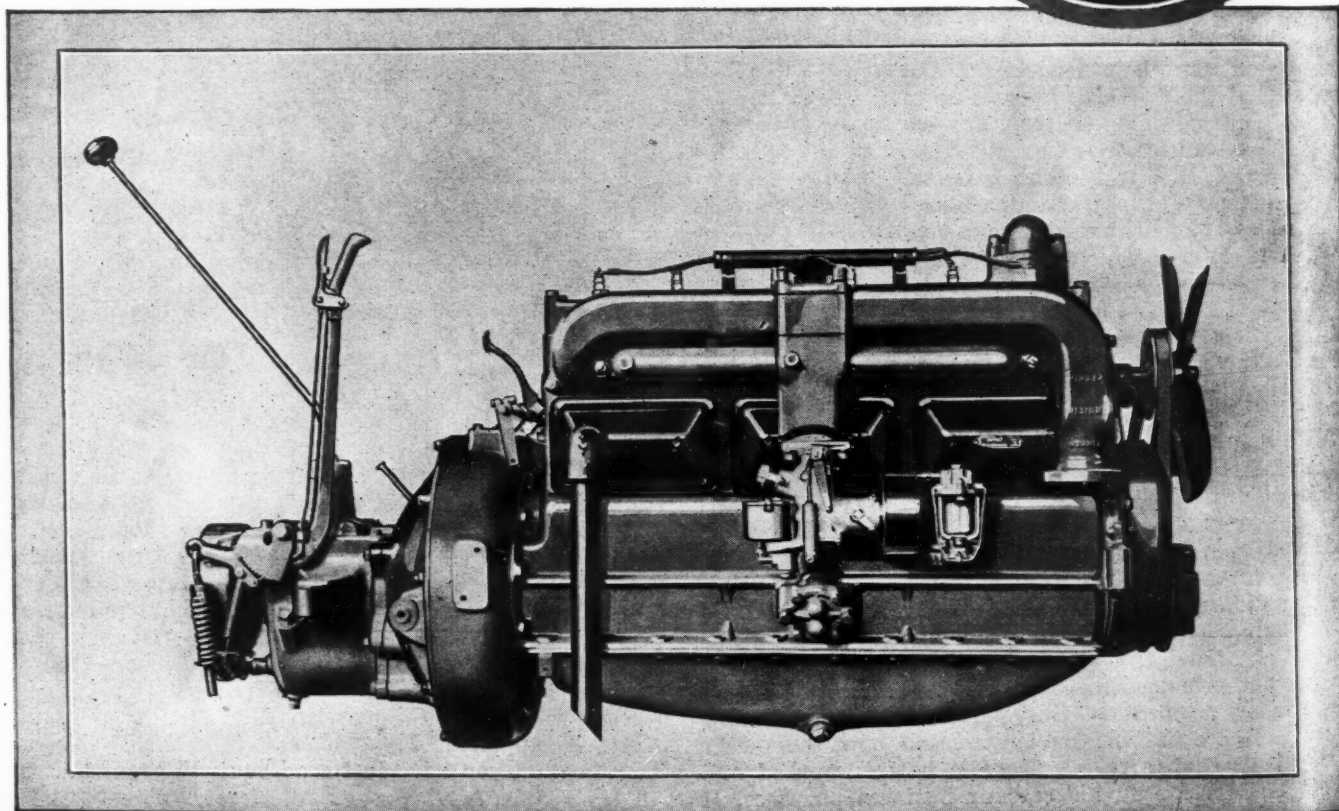
Prices were not available at the time of going to press but are not expected to differ materially from those of the preceding line.



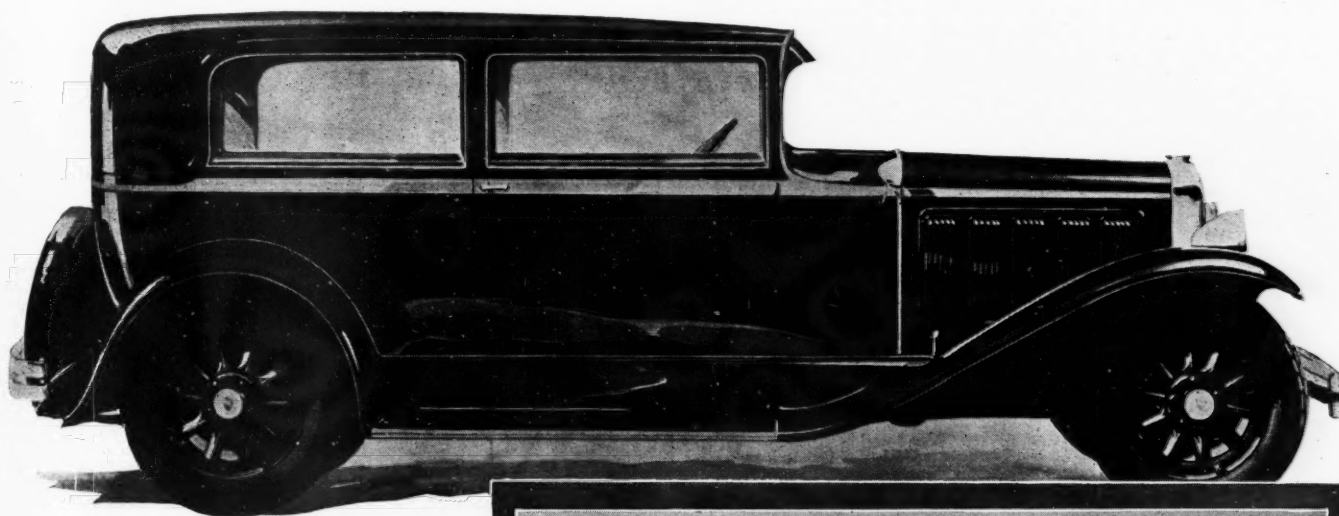
Above: An impression of greater height and reduced width is given to the radiator by the new center bar



Right: Front engine mounting on rubber

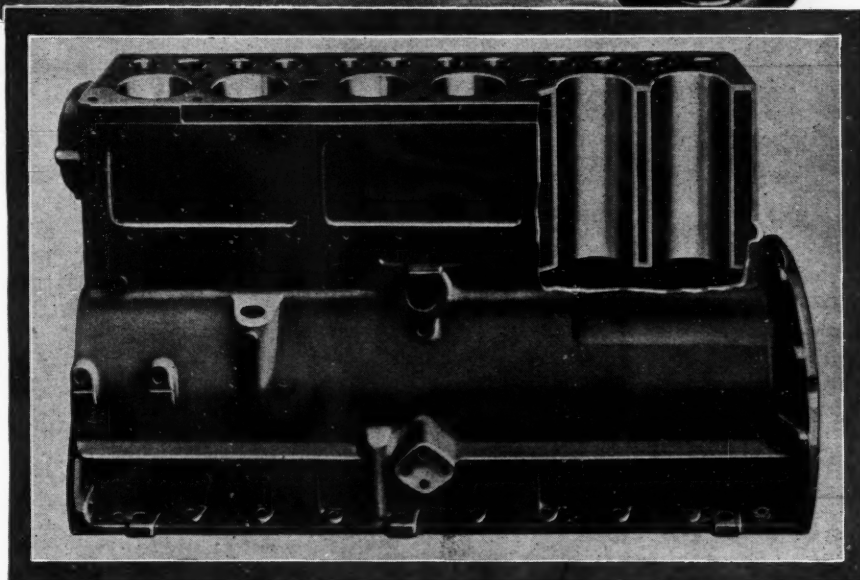


More Powerful



Above: Different lines throughout distinguish this new Oakland body style from its predecessors

Right: More uniform cooling is the result claimed for the new cylinder castings, made with water jacket plates separate



The new bodies are wider and the treatment of the belt moldings together with the sweeping lines of the one-piece fenders give the impression of speed and reduced height. While the wheelbase of 117 in. is the same as formerly, the hood louvers in five groups of four each give the appearance of added length. The radiator shell, with its vertical bar in the front, has a different contour which is set off with the Oakland crest in colors; the appearance is further improved by the provision of a false front for the radiator. All exterior hardware is chromium plated. Besides making the bodies wider in both the front and rear compartments, additional room has been obtained by making the position of the front seats of the closed cars adjustable and by bending the emergency lever forward.

The new engine, on which the bore has been increased from $3\frac{1}{4}$ in. to $3\frac{3}{8}$ in., develops 68 hp. at 3000 r.p.m. This increase in power is also the result of the larger ($1\frac{1}{4}$ in.) Marvel carburetor, larger intake manifold and a larger ($1\frac{3}{4}$ in.) exhaust pipe and muffler which reduces back pressure. The semi-steel pistons are lighter than on the preceding model and the diameters of the exhaust and intake valves are $1\frac{3}{8}$ in. and $1\frac{1}{2}$ in. respectively. The coil spring type harmonic balancer has been replaced by one using flat springs. This feature, together with larger counterweights on the crankshaft, produces smoother performance. The engine is now suspended at four points and the mountings are of rubber, so designed that it is impossible to change

the compression of the rubber. The front engine support has been removed from the cross-member and the rear supports are now located on the transmission housing instead of the bell housing. The cross-member passing under the transmission, which now supports the engine, has been strengthened to carry this additional load.

The cylinder blocks are now cast by a new method which results in a more even cylinder wall thickness and full length water jackets. Rigid alignment of bearings is obtained by external reinforcing ribs which extend the full length of the crankcase. Lubrication has also been improved by means of a larger oil pump, the regulator being of the plunger type; and the crankpin bearings are provided with a cross-groove to insure better cylinder wall lubrication.

In addition to strengthening the cross-member passing under the transmission and the four-point engine suspension, frame weave has been further reduced by means of a ribbed cover over the gasoline tank and rear of the frame.

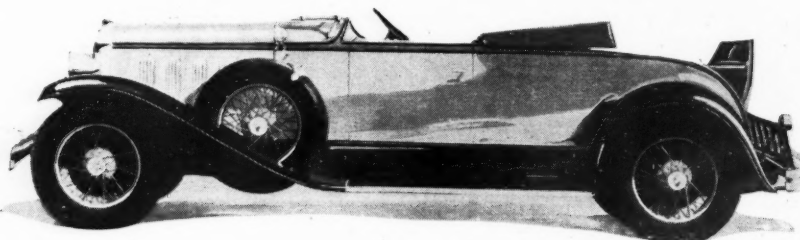
There are a total of six cross-members and the depth of the side-channel members is $5\frac{1}{2}$ in. They are of $\frac{5}{32}$ in. stock.

NEW OAKLAND MORE POWERFUL

Better balance and more strength have been obtained by increasing the diameter of the propeller shaft. The rear universal joint is attached to the drive pinion shaft

of seven body models; sport roadster, sport phaeton, coupe, convertible cabriolet, two-door sedan, four-door sedan, convertible landau. Equipment continues much

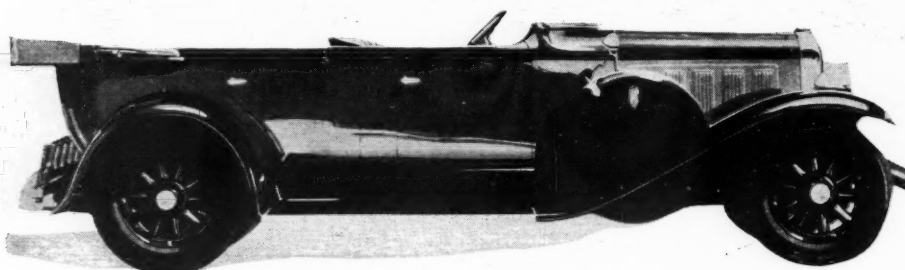
*Oakland All-American
Six Sport Roadster*



by a four splined slip-joint and a single steel bolt. This construction facilitates disassembly and servicing.

The Steeldraulic brakes, which have been previously

as formerly with Lovejoy shock absorbers, air cleaner, non-glare rear vision mirror, automatic windshield wiper, dash gasoline gage, rear traffic signal, cowl lights



*Oakland All-American
Six Sport Phaeton*

described in these columns, operate on 12-in. drums; the width of the brake lining is 2 in. and each wheel requires a piece 36 in. long. The diameter of the emergency brake drum is now 6½ in. with a width of 2 in.

For the present the new All-American line consists

and bands and semi-coincidental lock, included as standard. At extra cost bumpers, six wire wheels, fender wells and trunk racks may be obtained. Closed cars are upholstered in mohair, while leather is used on the open cars.

His Models Move for Movie Stars

(Continued from page 27)

buyers who revel in furs and gowns and lingerie displayed by slowly revolving models; or who are so fatigued from registering emotions for others that anything for their inspection must be carried to them, we can readily see the appeal of this method of display; and sense the vision of the man who conceived it.

To the dealer in the small business center, the idea must seem more fantastic than novel. The average American feminine purchaser—or potential purchaser—when she calls at the showroom, will swagger about the model much after the same fashion as brother or dad; even examining the intricacies under the hood. For the average American young woman is an outdoor, athletic young woman whom oriental divans and hand-and-foot service would confuse and abash. Nevertheless, the Nerney salon is but another concession to feminine tastes, and in Hollywood it is going strong. As proof of its success, the organization claims the sale of about 90 per cent of the Lincolns in Hollywood.

Numerous items concerning beauty pageants and beauty contests for automobiles have recently come to the front. Of course, when we see the photographs, we have a sneaking feeling that the pretty girl at the wheel whose soft lines blend with the stream-lines of the car had more than an ordinary share in the winning of the cup for her high-powered car. Obviously, the dealer showing the car must have thought the same, or he would have contrived to put a Ray Keech or Louis Meyer at the wheel.

Now that the beauty pageant for the four-wheeled charger is an established fact, why not the style show, or the fashion parade by the same token? The answer is, Stephen S. Nerney is doing it! Not with mincing models, mascara-lashed and prouetting; not with glare of spot-lights and blare of orchestra, but with soft and restful effects, the noise and the turmoil muffled by thick walls; and in an atmosphere of such rest, and peace, quietude and refinement that sales resistance is an ogre upon whom the outside door is closed.

To the pessimists and the skeptics it may seem that the pendulum of appeal has swung too far to the feminine side; that at last, awakening to the presence of the hordes of women buyers—controlling buyers, let us say—the dealer, in his zeal to please them will too strongly favor the bizarre in display. The fact remains that the majority of women are intrigued and held by show, pomp and ceremony. While gorgeous colors and fittings will not blind them to defects in the product, they will first call the product to the feminine attention, creating at the outset a favorable impression rather than the prejudice and sales-resistance which the same trappings might build up in a man.

To the dealer who is out for the feminine trade and conservatively caters to the esthetic tastes of the feminine mind, remembering the ingenious touches that will appeal to her innate refinement, we cannot say that the battle is half won, but we believe he has commenced a non-stop flight in the right direction.

Answers to Legal Queries

By S. BOYER DAVIS

You Have a Lien

We have repaired a Buick touring car and have a bill on it for parts labor at \$90.00. The work was done two months ago and we have held the car until the bill was paid.

Owner has called for the car twice but has not had any money to pay down and wanted us to let him have it and pay us \$20 each month which we, of course, would not agree to.

We now find that the dealer who sold this car has a lien against it for \$95. This dealer is located at Rosslyn, Va.

The owner of the car the last time he called to see us gave us to understand that unless we let him have the car at that time he would not pay the amount due us but would let the dealer take the car for the amount due him.

Just what steps will we have to take to collect amount due us? Also how would this affect the dealer who sold the car?—Williams Garage, by S. M. Williams, Broadway, Virginia.

WE believe you have a lien on this car under the Code of 1924 in your state, at least to the extent of \$25.00.

Should the dealer endeavor to repossess the car by a writ of replevin, or other legal means, you would, of course, have to surrender it. In this event you would have to consult an attorney to protect your interests.

Repossess Tires

We would like to have an opinion from your legal department on a question that is of great importance to the automobile industry.

A—Represents purchaser.

B—Merchant selling automobile.

C—Merchant selling tires.

B sells A a used automobile under the standard used car contract, that is used generally by finance corporations, receiving the down payment and the balance payable monthly. Some months later, say four months, for example, A buys from C a set of tires for his car. C takes a chattel mortgage on the tires listing the serial numbers. Two months later A cannot pay the instalments on his car and B repossesses the car which has the above mentioned tires on it. C learns of the repossession and makes demand for the tires from B. Can B keep the tires on the car or does C get the tires under his mortgage? In the purchase contract A has agreed to keep the car in good repair except for usual wear and depreciation.

We would appreciate very much any information you might be able to give us on this matter.—Turben Motor Company, Lawton, Okla.

THE tires being mortgaged to C, he is entitled to claim them if the terms of the mortgage are not complied with and the interest and principal paid when due. Merely putting them on a car does not give the owner of the car any title to them, nor is he injured in

any way because it is not conceivable that any one would put new tires on a car unless the old ones were worn out.

Therefore, the tires being worn out, the owner, in this case the merchant selling the car, has an automobile with worn-out tires which is equivalent to a car without tires, and thus the repossession of the tires by C does not injure B.

The statute provides, however, that the mortgage to be valid as against subsequent purchasers or encumbrancers must be filed in the office of the registrar of deeds of the county in which the property or any part of it is at that time situated.

Also in case of removal of the property from one county to another it is only valid for 120 days as against subsequent purchasers and encumbrancers, unless it is refiled in the office of the registrar of deeds of the county to which it is removed.

A Valueless Right

In the *MOTOR AGE* of June 7 I notice an article about "Can't Repossess if Dealer Fails," a court ruling in a California court. Would like your opinion of the outcome of a case of that kind in this state, Illinois.

There have been several cases of that kind near here in the last 10 months. The dealers just leave the country and the finance company comes and gets the cars.

The last one heard of was bought last fall or early winter and was taken back this month. Claim the dealer had bought from the distributor on conditional sales agreement and was to pay for it by the month and failed in May. The customer had a good bill of sale but the dealer is gone.—Hidalgo Garage, Hidalgo, Illinois, Att'n Cecil E. Meeker.

IN cases such as you have instanced, the cars being sold to the dealer to be paid for in installments, the agreement between the company and the dealer undoubtedly provides that the ownership of the car shall remain in the company until the full purchase price is paid.

The dealer, therefore, not having title to the car cannot pass it to the customer and if he fails to complete his payments, the company can claim their property.

In the absence of any special facts we cannot see how the company can be prevented from taking back its own property after the dealer has failed to live up to his contract. Of course, the purchaser has a right of action against the dealer but where he has disappeared, as you say, that right is not of much value.

Title in Seller

We have a case where a man brought us a Ford car to be repaired. After repairing we would not let car go without the money. Owner gives up the car as he owes a balance on car of \$19. We decided to sell car and find some other garage holds title. We try to get them to pay the bill. They refuse to pay bill and will not let us sell car, as car will not bring any more than our bill. But we have been storing the car for some time. Can we make the title holder pay storage on this car, or give up title? All we want is the bill on car.—G. A. Phillips & Co., Purcellville, Pa.

THE customer who ordered the repairs to the automobile in question not being the owner of the machine could not by his actions create a lien upon it as against the real owner of the car. (Burns Annotated Ind. Stat. Watson's Revision 1926, Sec. 9844.

All these instalment sale contracts may be presumed to preserve the title in the article sold to the seller until the last instalment is paid and hence the other garage is unquestionably the true owner. But since these parties did not authorize the repairs, and indeed probably were without knowledge of them, they cannot be held responsible so as to create a lien.

N. S. F. Check

I have just had a check returned to me, from the local bank on which it was drawn, marked N.S.F. for the third time.

They tell me, if I want them to try and collect it, to get a new check, and in taking it up with the writer of the check, he refuses to do so, inasmuch as he claims he has a satisfaction of all claims against the car that he purchased from me, and for which the check was a part of, being for half of one of the instalments, which he was paying to me for a while, I in turn remitting to the finance company, which finally repossessed the car through a local attorney, who is the party giving the satisfaction of the mortgage.

I have not taken this matter up with the attorney, because he failed to give me the consideration in adjusting the matter that was due me, and if you can advise me as to what to do in order to collect the check, I would appreciate the favor very much.—L. E. Halverson, 306 Main Street, Valley City, North Dakota.

IF you have any way of ascertaining when this party has funds and is likely to have money in the bank, you can try to collect on the check. This sometimes works.

Your other course would be to bring suit against him. The amount in question, judging from your letter, is a comparatively small one and you could probably bring an action before a magistrate.

DISTRIBUTOR STILL IS INDISPENSABLE

(Continued from page 21)

we try our best to make our interests his interests; to talk freely and frankly with him about all of our mutual problems and to function with him on a friendly basis at all times."

That was one side of the picture. Then a day or so later, there came the following reaction from an executive vice-president of an even more successful passenger car manufacturing company which operates with a few branches and a great many distributors:

"What some folks fail to take into account," he said, "is the basic economic aspects of the distributor situation. Look at the companies which have gone to direct dealer contacts. Only in a few cases have they made the move with any special animosity toward the distributor. They have changed simply because their product and their factory necessities had developed in such a way as to make the factory necessities no longer coincide with the interests of the distributor from a few basic economic standpoints."

"Take the factory which gets geared up for large production of a relatively low-priced automobile. Suppose it has been operating with distributors in the past. What happens when competition becomes keen and the entire possible output of the factory can be disposed of only by selling every car that possibly can be sold any place in the country?"

"Under those conditions, it becomes logical and necessary that the factory demand dealer representation and sales in the farthest confines of each territory. To obtain and hold representation in some of these areas may cost the distributor so much as to render profitless any cars which he might get rid of through that source. Naturally, he isn't going to work very vigorously to get that representation and sell those relatively profitless automobiles."

"The sale of those particular cars is profitable to the factory, however, because they help to keep up the quantity and keep down the overhead. Thus, quite apparently, there arises a distinct difference in interest as between the factory and the distributor. As that difference in interest continues and grows in significance, it is natural and logical that the factory should go to a direct dealer system."

"That situation has arisen for a number of companies in the industry and undoubtedly will arise for several more inside of the next five years. To recognize this, however, as a cold economic fact, is something quite different than to sing funeral dirges for the automobile distributor as such. Our factory still has nearly 100 distributors and we are going to have a number of distributors as far in the future as I can see."

Still another executive, pointing out the same economic basis for the change from distributors to direct dealer contacts, adds that the real saving is in the ability of the factory to get its needed volume and thus keep down its operating overhead rather than in the elimination of the distributor and his commission as such. "The function of the distributor has to be performed," he urges, "whether by the factory itself or by a distributor as such."

This reaction is borne out by the following statement made by *Automotive Industries* a few weeks ago. "It is strange at this stage of the game to see still stalk-

ing about the ancient myth that by eliminating a distributor or a branch the discount previously allowed is saved to the manufacturer."

"The distributor or branch performs a very definite marketing and distributing function. For some types of cars a field force under factory supervision dealing direct with dealers may perform that function more efficiently; but the cost of performing the function, while perhaps lessened, certainly is not eliminated."

"We have to remember," another sales manager remarked, "that in the long run the efficiency with which a given system is operated usually is more important even than the selection of the system itself. I know plenty of people won't agree with that idea, but I have seen it borne out in too many practical cases not to think pretty well of it personally."

Eliminating those cases where the basic economics of the situation point definitely to the direct dealer contact method as the one obviously best suited to the sale of the particular product, it would argue very strongly for factory omniscience to urge that the factory could always lay out a better method of operation by itself than could any distributor in any territory. Granting the desirability—even the necessity—for uniformity in methods throughout the country, it is perfectly possible to conceive that the best methods might be determined more surely through consultation and cooperation with a group of individuals operating on the sales firing line as distributors do, but still having a considerable investment in the factory franchise, than through pure logic at factory headquarters.

Practically every factory recognizes this idea in principle and in practice when they select—as they usually do—for executive sales positions at the factory, men who at one time or another have functioned either as distributors or dealers. The need of that actual experience and knowledge in factory councils is recognized. Friendly and continuous contact with current experiences in the field through a distributing organization doubtless helps considerably in keeping factory policies in line with practical field needs.

Those companies which operate direct with dealers recognize this same need and meet it by the employment of many field men and district representatives who through constant and daily contact with dealers supply to the factory the necessary information and intimacy of touch with retail conditions and needs. Both methods work out successfully but for the factory which cannot afford, by reason of its volume and the particular price class of its product, to employ so widespread and large a force of field men, the distributor offers the only possibility of keeping in touch.

It would be fatuous to argue in favor of a distributor system for all types of automobile distribution at this date. Obviously the distributor is out on thoroughly sound economic grounds in a number of instances and will be going out on these same grounds in some other instances as time goes on. Nevertheless, it is only fair to recognize that the distributor still plays a vital part in the distributing system of a majority of automobile factories and that probably a third of the total unit production and 60 per cent of the dollar volume production of the industry still will have passed through his hands in 1928.

"They Wouldn't Sell Me a Car"

Watch for this interesting story in next week's *Motor Age*



A MOTOR AGE IMPRESSION = J. N. KIRK
Sales Manager - World Bestos Corp.

SERVICE MEETINGS IMPROVE SERVICE

(Continued from page 23)

and ability to diagnose trouble correctly and then sell the complete operation that will correct the trouble. There is no doubt that more customer dissatisfaction, and hence lost profit, results from inaccurate price quotations than from any one other thing. Where there is a doubt as to what is needed, an operation should be sold that covers the dismantling and inspection of the part in question. After that an exact price can be given from this flat rate manual. It is imperative that care be exercised in quoting prices. While it is bad to quote too high and thus risk losing the job and also arouse your customer's suspicions as to your knowledge of the business, it is worse to quote too low and try to get the balance when the car is called for.

In servicing the automobile constant vigilance is the price of success. Only the best of service salesmen are good enough for the shop that hopes to make money—and the only way to keep those salesmen good is to keep them acquainted with changes as they are announced.

"When can I get my car?" is a question that can be intelligently answered only when there is the closest cooperation between the service salesman and the shop foreman. Of course one must know from experience how long a job should take. Then he must consider the condition and ability of his particular shop. Furthermore, of utmost importance, the repair order should be written so that it states specifically what is to be done. Also, the shop foreman should be consulted when there is the least doubt as to when a job can be finished. While he is responsible for promises—and there is nothing more important to business development than keeping promises—he is entirely dependent on the accuracy of the repair order when making those promises.

It is well worth the proprietor's time to see that he picks good men to begin with and then keeps them fully informed on all developments if he is going to be able to answer these important questions, "What's wrong with my car? How much will it cost to fix it? When can I get it?"

Is the Parts Man Appreciated?

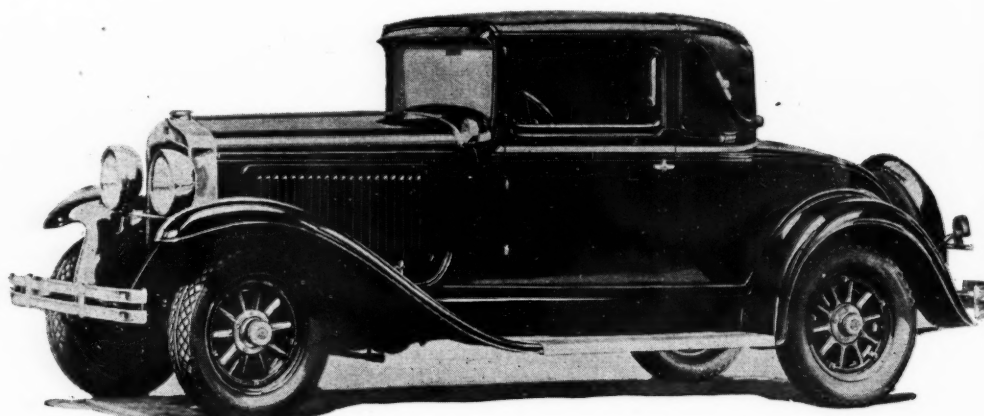
(Continued from page 29)

good parts man is partly responsible for a service manager's success. He also is accountable for the building up of good-will among customers. His cooperation means a lot. His is a responsible position. He is largely responsible for the kind of service the firm gives—and advertises—as well as for a part of the service manager's success.

Granting the foregoing to be true and there appears to be no good reason to think otherwise—how many parts men are full appreciated? Speaking in the modern terms of appreciation, I refer of course to salary. We all often wonder at times if our employers really do appreciate our services. Our friends rarely tell us of words of praise received by them from their employers and we cannot recall that our employer ever gave us a word of praise for anything. The usual thing would be

for one to get discouraged and let down in his efforts, especially if he saw others in the organization getting along with little effort. But he can't do that. The very fact that he has been conscientious enough to do his job as it should be done guarantees that he will continue to keep on trying, regardless of whether he thinks the boss appreciates him or not. And just as sure as there's any truth in precedent he's going to get his pay envelope one fine day to find that the boss does indeed appreciate his efforts. You can't get away from it; no man who is not intelligent enough to command, ever stays long in command; and no man who gets the opportunity to command ever overlooks the subordinates that in their humble way have helped him to rise from the ranks. In other words, if you're doing the job right, the boss can't fail to take note of the fact.

This coupe on the new Dodge Senior line has a rumble seat, crank operated rear window and lists at \$1,675



READERS' CLEARING HOUSE

Questions Answered By C. Edward Packer

Oil Pumping Caused by Bearings

I am driving a Hupp 6, 1926 series "A" five-passenger sedan, engine No. 10839. I have had trouble with the engine pumping oil right from the start. When the car had 11,000 miles on it I had the block honed and new pistons fitted. It was a perfect job. While I was limbering the engine up over a distance of 1800 miles of slow and careful driving, I thought I had the trouble cured but as soon as I started driving at 40 to 45 miles per hour, the oil disappeared the same as before. I keep the engine in A-1 shape and have tried several brands of oil, but they make no difference. The engine continues to exhaust a bluish white smoke as before. The engine uses a three-ring piston, two rings above the piston pin and one oil ring below. The piston is very short, which makes me believe that this is responsible for part of the trouble. Please let me know whether or not I could install a longer piston of the same weight with four rings without interference.—James J. Kavan, Box 63, Linwood, Neb.

YOUR trouble is not in your piston or rings. Consequently, we have not investigated to see whether or not a longer piston could be installed. The installation of a longer piston or special ring equipment would be ineffectual in this car as it is. The thing to do is to drop the main bearing cap and take them to the bench. You will find that where these lower caps meet the upper caps of the bearing that they are chamfered or beveled for the entire width of the cap. This chamfer meets the oil groove in the bearing and drains the bearing excessively. At medium speed this has practically no effect on the engine. At high speed the oil pressure goes up, the oil flows in liberal quantities and is thrown from the rapidly revolving crankshaft onto the cylinder walls. As an excess is thrown on the walls, too much passes into the combustion chamber and causes your high consumption and smoking.

Page Sherlock Holmes

We have a customer who is driving a Buick 25/21 whose car has developed a very peculiar condition. Evidently there is some sort of vacuum or other action present in this car. The problem is that it pumps the lubricant (600W) from the differential to the transmission, causing a surplus of lubricant in the transmission. From there this lubricant leaks to the clutch, causing deterioration of the clutch facing. The differential after 100 miles of driving will be dry and yet shows no leakage at the wheels or at any connection and the transmission will be overflowing. We have had dozens of cases of transmissions leaking to the differential and to the

clutch but have never heard of one forcing the grease from the differential to the transmission. We will thank you for anything you might suggest.—Harold Mathwig, John Mathwig & Sons, Oshkosh, Wis.

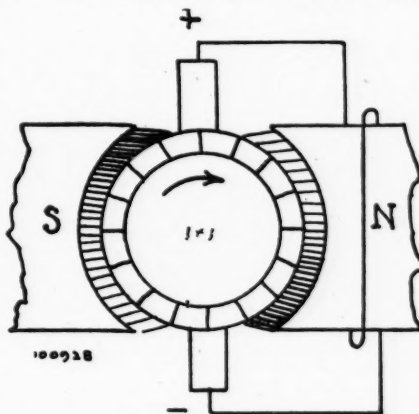
FRANKLY, we do not know the explanation of what will cause heavy oil to flow up-hill. That is what is evidently happening in your car. We have even taken the matter up with local Buick service men who have never seen nor heard anything like this. We will be grateful to any MOTOR AGE readers who can explain the cause of the suction and give the method of curing the trouble. Relief may be had by drilling a 1/4-in. hole in the top of the driveshaft tube. This will break the suction.

Third Brush Regulation on Generator

Explain the third brush regulation on a generator. I understand other regulating systems such as resistance and bucking field.

WE are showing two illustrations, one of which indicates a generator with a field winding connected from one main brush to the other. The other illustration shows a third brush generator with the field winding connected from a main brush to a third brush which is in between the two main brushes.

In a generator, magnetism normally goes from one of the poles which we call a north pole over to the other pole which we call a south pole. When current flows in the armature, however, it gives the armature a magnetizing effect which tends to twist or distort the main magnetic field. This is shown

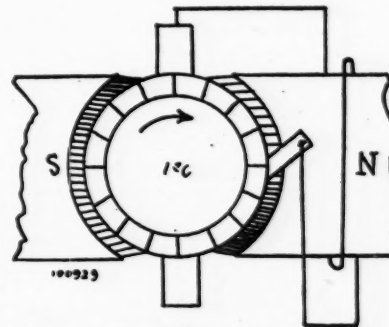


Field connected to main brushes

in both illustrations by the lines of

force being more dense at the lower corner of the north pole.

In the machine where the field is connected to the main brushes this has no appreciable effect on the voltage applied to the shunt field. In the third-brush machine, however, you can see that the magnetism has been shifted so that the commutator bars across which the field winding is connected have but little voltage between them. We have thereby developed an automatic means whereby the current as it increases automatically weakens the magnetic field by shifting the magnetism away from those commutator bars which are feeding current to this field.



Field connected to main and a third brush

Check Fan Pulley

I am writing you in regard to a knock in a Star Six. It is loudest when speed is around 30 m.p.h. and also when standing still with the engine running at fairly high speed. It seems to be at the front end and sounds very much like a valve tappet or a loose timing chain, but we know that it is not caused by these parts. We put in new piston rings and pins, also put in new bearings in the generator and tightened the main bearings and rods and also checked up on the oil pump valve. The camshaft bearings are O.K.—Boch Brothers, Broad Street, Bremen, Ohio.

YOU have pretty well exhausted all the possibilities. However, there is one other thing that we would not be surprised to find is causing your trouble. The crankshaft pulley is merely keyed on the shaft. It is a light pressed fit and it is possible that this has come loose. In order to be absolutely certain, you would do well to remove the pulley and operate the car in that condition. Obviously, the absence of the noise would indicate that the pulley was responsible for the trouble.

[READERS' CLEARING HOUSE]

Speeding Up a Chevrolet

I have a 1927 Chevrolet roadster which does not seem to be as fast as it should. I would like to know what you consider the top speed for this car. It does 50 easily enough but it seems impossible to get it over that. Also it does not seem to have the power on the hills that it should. It never has been faster. The speedometer has been checked. The engine has been thoroughly overhauled and Lynite rods and the new type Chevrolet pistons installed. It was carefully broken in and has gone 7000 miles since then. The valves were ground again just last week. This car being an early 1927 has the small valves and full manual spark control. Do you think a later head with larger valves and the automatic advance would help? Would you advise any change in the valve or ignition timing? Perhaps I am expecting too much but I want to get all there is in it out of it. I will be grateful for any suggestions you can give to improve the performance in any way.—H. G. Higgins, 16 Gardiner Park, Rochester, N. Y.

WE believe that with a little experimenting with the spark at high speed will probably give you a little faster operation. We doubt if you will be able to do over 60 miles an hour with it at the best but believe you will be able to get close to 60 by advancing the spark slightly. However, this is likely to result in a little rough action at low speed. We would not advise changing the valve timing. There is no doubt that the later head with larger valves would give you a little more speed but we doubt if the result would be worth the expense.

The Starter Won't Start

I have a Model A Ford that came to my shop with starter trouble. When you step on the starter switch the gear seems to go in against the flywheel and then appears to bounce back and then just buzz. It will do this one to three times when you go to start. This starter has never been worked on and if you have any suggestions you can give me I'll appreciate it.—Crist Garage, Monroe, Indiana.

THE action of the Ford starter gear is practically the same as the action of a Bendix drive. That is, the starter pinion is engaged with the flywheel ring gear by inertia. The inertia of the pinion permits the pin on the shaft to turn and as the pinion delays revolving for an instant, this pin acting against a spiral slot forces the pinion into mesh with the ring gear. You will appreciate that if the pinion is inclined to stick on the starter shaft that it will revolve with the starter and will not slide into mesh. Likewise, if the pinion or flywheel teeth are battered, the pinion may attempt to mesh but will probably bounce out of mesh and revolve with the starter shaft, giving you the action of which you complain. Nothing but a visual inspection of the parts can determine the trouble.

Before going into this to this extent it would be worth your while to check up on the starter switch to be sure it is making good contact. A faltering contact would result in a poor start of the shaft and as a consequence the pinion would probably revolve with the shaft instead of flying into mesh as it should.

Pressure a Little Low

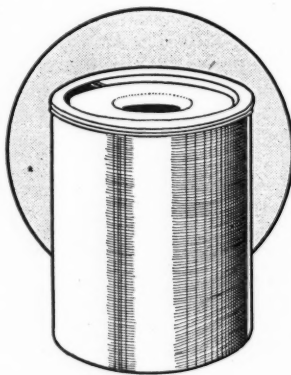
I would like to know if 20 lb. oil pressure is enough for a Chrysler 62. That is all it shows at any speed. Bearings fit nicely and there is no unusual sound of any kind in the engine. I would just like to know if this pressure is sufficient.—E. M. Peek, P. O. Box 185, Trilby, Fla.

IF the pressure referred to were obtained when your engine was hot and you were traveling at 30 to 35 m.p.h. it would be sufficient. However, a pressure of 35 lb. should register at a speed of approximately 45 m.p.h. in order to be sure of adequate lubrication.

SHOP KINKS

Ideas that have proved useful

TO make a welding flux can non-spillable, I cut a 1 in. hole in the center of the lid and then bend the edges down slightly. This works somewhat on the principle of the non-spillable ink well. This construction enables one to insert the hot welding rod and pick up the flux but at the same time reduces the chance of spilling and helps to keep dirt out of the flux.—D. Sanderson, 419 Santa Clara St., Vallejo, Cal.



Readers of MOTOR AGE are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published \$2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.

Don't Use Heavier Valve Springs

Am driving a Chrysler "70" roadster made in 1926. I am going to put in new pins, rings, clean carbon, grind valves and tune the engine up. While doing this, I want to put more snap and speed into it by replacing the valve springs; the car is now equipped with 75-pound springs and I intend to put in 90-pound valve springs. I was told by an owner of an "80" that this would give much better performance. Would this be a good thing to do? Would you advise me to try it? Will it hurt the valves or the camshaft, this being a four-bearing shaft with just plain steel bearings? I do not care to do this replacing unless it will accomplish my purpose without injury to the engine.—B. J. Kempa, Milwaukee Water Works, Division of Collections, City Hall, Milwaukee, Wis.

WE would not advise the installation. The load on the camshaft bearings would be excessive and in all probability would result in serious trouble. Incidentally, we do not believe that in this particular car you would find greatly improved operation as a result of the installation. What we would recommend would be the Red Head high compression cylinder head. In connection with this, you would also do well to install the regular "72" muffler and by-pass. The higher compression head will give you approximately 12 per cent better acceleration and power and the by-pass will give you in the neighborhood of four miles an hour higher speed when wide open.

Nothing Wrong

We have a Pontiac about two months old that has run just 1400 miles and is using too much oil. We have been using a very well-known oil of the proper grade but still this car will consume one quart every hundred miles. There is no leak that we can detect, neither do the plugs foul up. This car was broken in very carefully. Can you tell us what might be the cause and remedy for this trouble?—George L. Hofman, Hofman Brothers, Marion, Wis.

THE factory does not anticipate over 105 miles per quart of oil. This consumption is caused partly by the crankcase ventilating system. If you wish to reduce the ventilating effect and consequently improve your oil mileage, you can loosen the lock nut and set screw on the filler pipe and turn the filler pipe about one-quarter of a turn so that the air from the fan does not blow into it so violently. We would not advise turning it farther for the ventilating system is valuable in that it carries off gasoline and other vapors and thus reduces the amount of crankcase dilution and water accumulation. This feature is particularly important in cold weather.

[READERS' CLEARING HOUSE]

Generator Field Testing

Advise how to test starter and generator fields for open, short and ground.

METHODS of testing generator fields are illustrated. These sketches apply to generator field windings better than to starter field windings.

At the left-hand sketch in the illustration a four-pole generator field is shown, showing a battery connected through an ammeter so that the field current can be measured. If on this test no current was obtained through the ammeter and it was known that the battery connections were O. K., it would indicate that the field winding was open. Under these circumstances the test shown in the middle sketch could then be made, where the battery current to one field coil only is measured.

In this manner tests could be made across each of the four different coils

short-circuit would allow a defective coil to draw more current.

In the sketch at the left another test is shown for shorted coils. Here the voltmeter is used connected across one coil at a time while the battery current through the ammeter is flowing. With a 6-volt battery and four coils all alike, the voltmeter reading would be 1.5 at each coil. A reading much below this at any one coil would show a short-circuit. In practice, however, all four coils may be good and yet there will be a slight variation, such as from 1.4 to 1.6 volts. Grounds may be detected as shown at the right, where the 110-volt test lamp and test points are used. If the lamp lights up it shows that there is a ground.

In making this test, however, the battery shown in the right-hand sketch should not be connected. After a ground is located with the 110-volt test the battery can be connected instead

Knight Timing

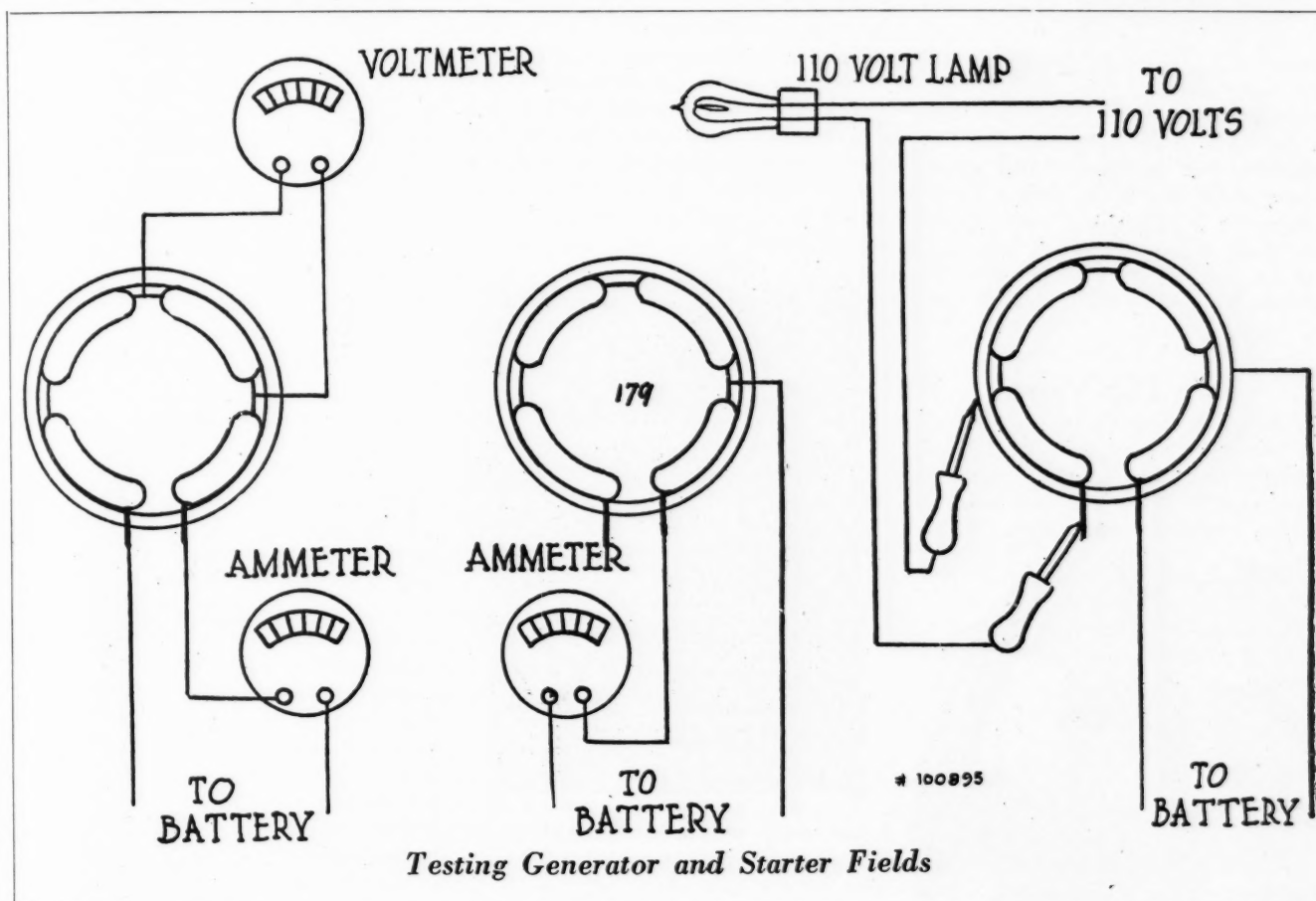
What is the ignition timing, both in degrees and piston travel on the 56, 70-A, 66-A, 96 and 98 Willys-Knight cars?—L. Vilatts, Salem, Ore.

THIS information is not given out by the factory and therefore, is not available here. The proper way of timing these cars is by means of the flywheel marks, which will give you the correct timing for both valves and ignition.

Chrysler 72 Timing

What would the timing be on the Chrysler 72? It uses a 3-point ignition cam.—Vernon Modine, 103 Horne St., St. Charles, Ill.

ON both the models 70 and 72 that use the Red Head engines the spark should be set to occur at .002 in. of piston travel before top dead center. With the regular engine this should occur at .087 in. of piston travel before



Testing Generator and Starter Fields

and if an open developed in any one it would be indicated by failure to get a current indication on the ammeter. If the field windings should be O. K. the ammeter reading at the center test would be four times the ammeter reading as indicated at the left.

In the center test, getting the same reading on all four coils would show that none of them were shorted, for a

of this 110-volt test. This is especially useful with a starting motor, for the heavy current from the battery will cause a curl of smoke to come up from the defective coil. The two tests at the center and left should not be made on a starting motor if an ammeter is used, as the meter would be burned out. Even without a meter, a very heavy current will be drawn and the test is inadvisable.

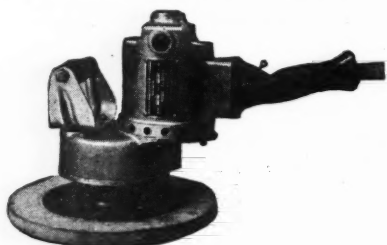
top dead center. This must be very accurately measured with a dial gage fitted into the $\frac{1}{8}$ in. iron pipe plug hole which is over No. 6 piston. Chrysler service stations are supplied with the gage that is so necessary to assure accuracy in performing this kind of precision timing.

(Turn to page 42, please)

The Latest in Accessories

Sander and Polisher

THE polishing or rubbing down of refinished surfaces, the dressing of repaired fenders and parts of bodies, and the sanding of floors, are among the operations that are handled by the Nedco sanding and polishing machine. This machine is equipped with a $\frac{1}{4}$ hp.



motor which operates from any electric light socket. The spindle speed is from 1700 to 2200 r.p.m., depending on the load. This equipment uses any standard 9 $\frac{1}{4}$ in. disk. The attachments, which can be furnished, include rubbing felts, polishing felts, lambswool pads, 6-in. wire brush and $\frac{1}{4}$ -in. drill chucks. This product sells for \$85, and is made by the C. Warren Mfg. Co., Natick, Mass.

Tire Pop-Valve

THE Tire Pop-Valve Co. of Pontiac, Mich., have introduced a new invention to make it simple and easy to get exactly the proper air pressure in tires while inflating them. They

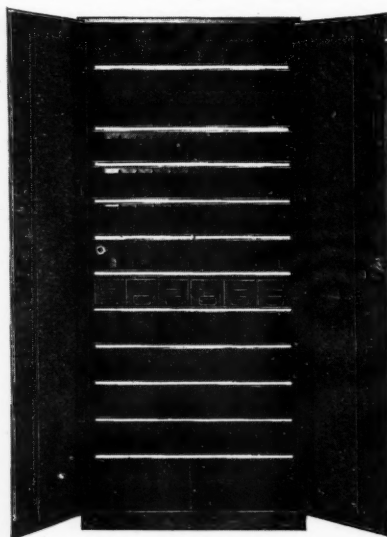


are designed to be sold in sets of four and screw on to the valve stems with-

out disturbing the core-valve, and are left on the tire until the tires are worn out. When the tire needs inflating, the air hose is applied as usual, and when the designated pressure is reached in the tire, the Pop-Valve "signals," after which no more air can pass into the tire, thus making it easy to accurately inflate tires either in daylight or darkness.

Toolcrib

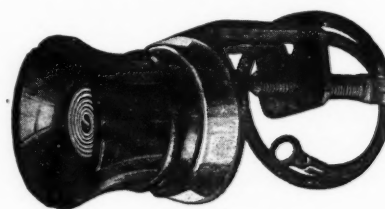
THE Lyon Toolcrib 626-D as shown in the illustration affords convenient storage and adequate protection for special tools, micrometers and special precision instruments which are necessary in the servicing of automobiles. The tools are in plain view, instantly accessible, yet protected by double steel doors, equipped with a lock. This Toolcrib measures 7 by 3 by 1 ft., and contains 13 shelves adjustable on 1 $\frac{1}{2}$ in. centers. It has 100 compartments in all with four shelves of sloping type for drills, taps and reamers



(each shelf having half-height dividers) and one shelf is provided with six steel boxes with three adjustable dividers to each box for storing small parts. Each shelf and box is fitted with a label holder, and labels may be easily removed when different storage arrangement is desired. The shipping weight is approximately 313 lb. The price complete, set up, crated, f.o.b., Aurora, Ill., is \$47. The Toolcrib without doors, may be had for \$30. This is a product of the Lyon Metal Products, Inc., Aurora, Ill.

Wireless Lighter

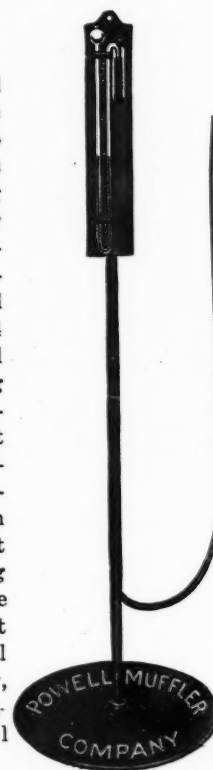
THE new Casco No. 600 Wireless Lighter has a patented switch which automatically breaks the circuit when the lighter head is removed for use, thus preventing contacts exposed to short circuits. The head is so constructed that there are no exposed hot parts which might cause burned fingers. A slight pressure is sufficient to



close the circuit, causing the coil to glow red in an instant. When removed, the lighting element retains its heat long enough to provide lights for several people. The new Casco can be attached in a moment to either wood or metal instrument panels and there are no holes to be bored. It is finished in mottled Bakelite and bright nickel silver. The price is \$2.50, and it is made by Casco Products Corp., Bridgeport, Conn.

Pressure Gage

THE Powell Muffler Gage was developed to eliminate the loss of time in tracing back pressure or other muffler difficulties. The cast-iron and steel stand is about 64 inches high and red rubber tubing tapped into the exhaust pipe just ahead of the muffler registers engine pressure on the gage. A chart is furnished giving the normal pressure of every engine. It is made by Powell Muffler Company, Utica, N. Y., makers of Powell mufflers.



Useful Shop Equipment

Ammco Model X Rigid Cylinder Grinder

THE Automotive Maintenance Machinery Company, 816 W. Washington Boulevard, Chicago, are now offering the Ammco Rigid Cylinder Grinder in two models. Model N is the designation used for the Ammco Rigid Cylinder Grinder which has been on the market for some time, and which has the screw-driver adjustment of the stone setting.

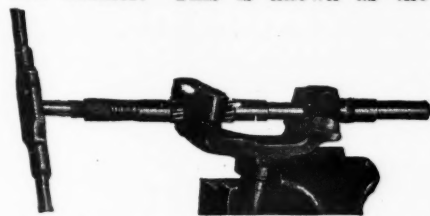


The new Model X Ammco Rigid Cylinder Grinder is identical to the Model N Tool, except that it is provided with an external dial adjustment and is furnished at a slightly higher price. A novel feature of the Model X Tool is the mounting of the dial adjustment at the top of the grinder shank where it can be adjusted without interfering with cylinder head studs. It also enables the mechanic to adjust the stone setting when the grinder is at the bottom of the bore.

The Model X Grinder is particularly adapted for use with grinder stands, because it is unnecessary to disconnect the shank to adjust the stone setting, thus making the combination a semi-production unit of maximum operating speed and convenience.

Reamer Pilot

THE Scully Steel & Iron Co. of Chicago are offering an extension for use with the Scully JMC Expansion Reamer. This is known as the



JMC King Bolt Pilot. It converts the Piston Pin Type reamer into a Steering Knuckle Type. In many cases, the JMC Reamer can be used for reaming the bushings in water pumps, transmission gears and other places where the distance between the two bushings is considerable.

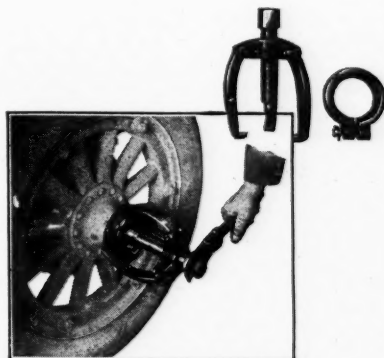
One size King Bolt Pilot will fit several sizes of JMC Reamers, in fact only four sizes are required to fit all sizes of JMC Reamers from $\frac{1}{8}$ in. to 1 in.

The regular taper pilot bushings, as used with the Piston Pin Type, are used with the King Bolt Pilot to center the reamer and to insure reaming holes in line.

On account of the large range of expansion (.057 in.), only a few sizes of JMC Reamers are needed for practically all reaming jobs.

Universal Wheel Pullers

EMPLOYING the use of contracting rings, made in sizes to fit the hubs of all makes of cars and trucks, threaded on the wheel hub and securely clamped, the Kent-Moore Universal Wheel Puller Set offers a good method of pulling the wheel. This pulling operation will not mar or damage the threads of the hub or the axle.



The unit consists of a main puller with a heavy-headed $1\frac{1}{4}$ in. screw, three sturdy alloy steel fingers, and contracting rings in the desired sizes.

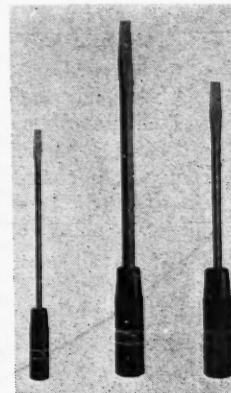
After the ring is threaded on the wheel hub and clamped, the puller fingers are engaged in recesses in the ring as shown, the screw is drawn up tightly, which is generally sufficient to pull the wheel. In exceptional cases the head of the screw may be struck with a sledge hammer without fear of injury to parts or tool. The fact that the fingers are hinged and behind the ring when a blow is struck causes them to spring slightly and thus absorb the shock. Though this action is very slight it is adequate to produce the desired effect.

This set of Wheel Pullers is manufactured by the Kent-Moore Organization of Detroit and Kalamazoo.

Screw Driver

THE Fleming Machine Co. of Worcester, Mass., known for their line of precision tools for automotive mechanics, has made a unique screw driver.

The blade and shank are a piece of hammer-forged chrome vanadium steel, heat treated and tempered. You can't permanently bend the shank, nor break it, and you can't loosen its firm anchorage in the handle, is the claim of the maker.



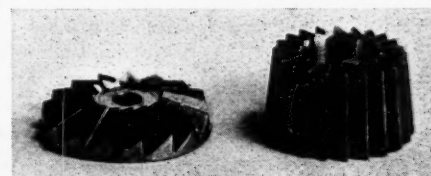
The handle is of compressed fibre—a perfect insulator. It is a smart looking black handle with rings of red and green with a grip that resists slipping in oily hands.

There are four standard sizes; three ignition type sizes up to $\frac{3}{8}$ in. by 12 in., and three square shank sizes, the largest $\frac{3}{8}$ in. by 10 in.

Valve Port Cutters

WHITNEY cutters are designed for narrowing valve seats that have been gradually widened by repeated valve reseating.

The valve reseating cutter is used first and is operated by a spindle having a stem diameter corresponding with that of the valve or slightly oversize



to guide the cutter accurately. The two Valve Port Cutters, 15 deg. and 85 deg., operated by the same spindle are next used, the former cutting the top of the seat while the latter cuts at the base. Alternate use of these two cutters produces a seat of any desired width.

All "Whitney" Cutters are made of crucible tool steel by The R. S. Whitney Mfg. Co., 150 Turner St., Auburn, Me.

READERS' CLEARING HOUSE

(Continued from page 39)

Synchronizing Straight 8 Breaker

I would like to know how to set the contact points on a Lycoming straight eight. This has a Remy ignition system. We have the gage for synchronizing these points but do not know how to use it.—Ralph Ward, 1209½ Kansas Ave., Great Bend, Kansas.

THE following instructions cover the synchronizing of the breaker arm on the 8-cylinder distributors with four lobe cams regardless of what engine they may be used on. You will find that one set of contact points is stationary and the other set is movable. The stationary set is adjusted first and synchronizing is completed by adjustments to the movable set of points. To set contact opening of arm A, turn distributor shaft in its direction of rotation until rubbing block of breaker arm A is on lobe of cam. Loosen screw B and turn screw C to get contact opening, which is .018 in. to .024 in. and preferably .022 in. Tighten screw B. Again turn the shaft till rubbing block of breaker arm D is on lobe of cam. Loosen screw E, turn screw F till points open between .018 in. and .024 in. and preferably .002 in. Tighten screw E. Put synchronizing tool over cam, locking it with the slide pushed through, showing the arrow that points in the direction the shaft rotates as viewed from the top. If rotation is clockwise viewed from top, turn shaft in this direction till breaker arm A breaks contact. Note marking on M side of synchronizing tool that is in line with point X, which is the edge of the slot in the distributor base rim. Continue to turn shaft till the same markings on N side of tool is in line with point X. Loosen screws G and H and turn screw I till arm D breaks contact. Check this by rotating shaft again. Tighten screws G and H. Also check contact opening of breaker arm D and if it was set before at .022 in.,

it should still be within the limits. If outside of these limits, reset the point opening and synchronize arms again. Do not make any adjustments to arm A, but confine the adjustments to arm D to complete the synchronizing. For distributors having opposite rotation, proceed as above except rotation, and align with the N side of the synchronizing tool first and the M side last. The graduations on the tool represent engine degrees and the breaker arm must not be out of synchronism more than two engine degrees. The eye cannot detect the moment the points open and to get an accurate synchronizing adjustment, connect the ammeter in the ignition circuit at the distributor terminal. If on the car, make sure the ignition switch is "On." The instant the ammeter needle drops back to zero, the points open. Another way of checking the instant at which the points open is to place a 6-volt trouble light in series with the primary leads of the ignition coil. Obviously the points are open the instant the light goes out.

Clutch Noise

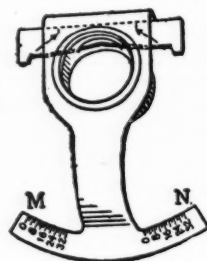
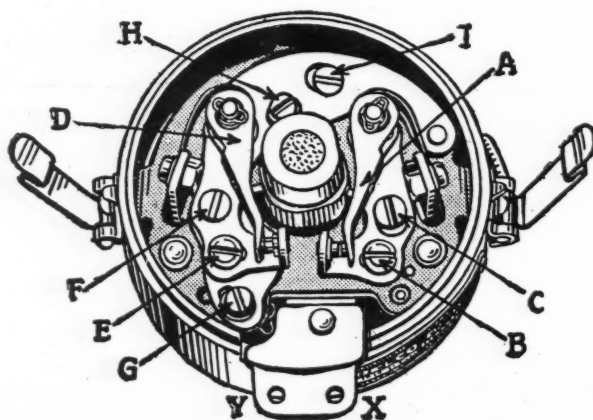
I have a model "A" Ford Tudor, run 1600 miles, and from the day I received it, it had a peculiar noise with the engine running. This noise was there whether the car was in gear or not. It sounds as though it were in the clutch. When the clutch is depressed just about one inch on the pedal, the noise stops, although at that point the transmission gears are still rotating. When the engine, clutch and transmission gears are moving and you shut off the ignition switch, the engine stops with a rubbing sound. When you shut off the ignition with the clutch depressed about one inch on the pedal, the engine stops quietly. The noise has neither increased nor decreased since I got the car and as I mentioned before, I have run it 1600 miles. What do you suppose can be causing this and what can we do to correct it?—Mt. Penn Garage, Rear 21-29 North Twenty-third Street, Mt. Penn, Reading, Pa.

THERE is no doubt that the noise is caused by the driving clutch plates moving on their splines in the clutch driving ring. This may be caused by slight misalignment between the clutch and transmission assembly and the engine. You may be able to fit shims around the clutch housing in back of the cylinder block to line this member up. Another cure, easier to apply but not so permanent, is to lubricate the clutch splines or tooth-like members that carry the clutch plate with a mixture of one part of light oil and four parts kerosene. This mixture should be applied very sparingly as this lubricant on the clutch plates would be injurious to them.

Timing a Chevrolet

I would greatly appreciate your advice once more on some work on my 1927 AA series Chevrolet. What is the correct valve timing on this car and will you tell me the best way to check it? I am replacing the camshaft timing gear and find the marked tooth on the new gear one tooth earlier than that of the old one. I have set No. 1 piston on top dead center and have the exhaust valve just closing and the intake about to open but I find it necessary to advance my camshaft gear two teeth from the manufacturer's setting to get this result. Is this correct? Will you please tell me a practical way to set this gear and give directions in inches of flywheel travel rather than in degrees. I find a marking on the flywheel of top dead center 1 and 4 but cannot find the mark on the case to correspond. Where is it located?—Frank M. Gorsuch, Jr., 1215 W. Allegheny Ave., Philadelphia, Penna.

IT is true that the punching on the timing gear has been changed slightly on the new gears, but if you are replacing both they will line up all right and if you are replacing only one, you would do well to line the new gear up on the old one and punch it for yourself. The reason your teeth are so far out is because you are setting the timing incorrectly. The intake should just be opening and the exhaust valve just closing when you are 4.9 flywheel teeth past top dead center. You will find this easier to check than if we gave you the information in inches or degrees. At this point, mesh your gears. If the mounting is properly reproduced on the new gears, you will find that the punch mark on the old crankshaft gear will line up with the punch mark on the new camshaft gear. The timing hole is located on the right front side of the flywheel housing. You should be able to see this by looking back on the right side of the hood.



Synchronizing Tool
Part No. 820738

Prices, Weights and Equipment of Current Passenger Car Models

Important changes in Specifications and Price Tables since last issue:

OAKLAND 1929 Specifications and Body Models

Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment
CADILLAC "341"				
2p. Roadster....	\$3350	2	4690	aeghlmpnx
4p. Phaeton....	3450	4	4725	aeghlmpnx
4p. Sp. Phaeton....	3950	4	.....	Beghiklmpnx
7p. Touring....	3450	4	4760	aeghlmpnx
2-4p. Coupe....	3295	2	4930	aeghlmpnx
2-4p. Conv. Coupe....	3595	2	4835	aeghlmpnx
5p. Coupe....	3595	2	4910	aeghlmpnx
5p. Sedan....	3695	4	5040	aeghlmpnx
5p. Town Sedan....	3495	4	5030	aeghlmpnx
7p. Sedan....	3795	4	5140	aeghlmpnx
7p. Imp. Sedan....	3995	4	5180	aeghlmpnx
"Fleetwood"				
5p. Sedan....	\$4195	4	.....	aeghlmpnx
5p. Sedan Cab....	4195	4	.....	aeghlmpnx
7p. Sedan....	4295	4	.....	aeghlmpnx
7p. Sedan Cab....	4195	4	.....	aeghlmpnx
5p. Imperial....	4345	4	.....	aeghlmpnx
5p. Imperial Cab....	4345	4	.....	aeghlmpnx
7p. Imperial....	4345	4	.....	aeghlmpnx
5p. Club Cab....	4395	.....	.....	.....
5p. Phaeton Sed....	5750	.....	.....	.....
5p. Im. Pha. Sed....	5995	.....	.....	.....
Town Cab Con....	5250	4	.....	aeghlmpnx
Town Cab Con....	5500	4	.....	aeghlmpnx
Lim Bro'm Con....	5500	4	.....	aeghlmpnx
CHANDLER				
"65"				
5p. Touring....	\$ 895	4	.....	ahmn
5p. Sportster....	995	2	.....	ahmn
3p. Coupe....	875	2	.....	ahmn
5p. Sedan....	895	4	.....	ahmn
2-4p. Coupe....	955	2	.....	ahmn
5p. DeL. Sedan....	995	4	.....	ahmu
2-4p. Cabriolet....	1075	2	.....	ahmn
"Royal 75"				
5p. Sedan, 2d....	1295	2	.....	.....
2-4p. Coupe....	1295	.....	.....	.....
5p. Sedan, 4d....	1395	4	.....	.....
5p. DeL. Sedan....	1495	4	.....	.....
"Big Six"				
7p. Touring....	1725	4	3360	ahjlmnw
5p. Met. Sedan....	1525	4	3800	ahmnt
4p. Coupe....	1725	2	3535	ahmnt
3p. Ctry. Club....	1725	2	3535	ahmnt
5p. Royal Sedan....	1725	4	3800	ahmnt
2-4p. Cabriolet....	1825	2	3450	ahmnt
7p. Sedan....	1925	4	3895	ahmnt
7p. Berline Sed....	2025	4	3945	ahmnt
"Royal 85"				
7p. Touring....	1995	4	3655	ahjlmnpwx
4p. Coupe....	1925	2	3640	ahmnt
4p. Ctry. Club....	1925	2	3640	ahmnt
5p. Sedan....	1795	4	3900	ahmnt
7p. Sedan....	2195	4	3950	ahmnt
3-5p. Cabriolet....	2095	2	3600	ahmnt
5p. DeL. Sedan....	1995	4	4005	Bhilmnpwx
7p. Berline Sed....	2295	4	4000	Bhilmnpwx
CHEVROLET				
2p. Roadster....	\$495	2	2030	dr
5p. Touring....	495	4	2090	dr
5p. Coach....	585	2	2360	dhr
2p. Coupe....	595	2	2235	dhr
5p. Sedan....	675	4	2435	dhr
2-4p. Con. Sp. Cab....	695	2	2265	dhr
5p. Imperial....	715	4	2405	dhr
CHRYSLER				
"65"				
2-4p. Roadster....	\$1065	2	2730	aghn
5p. Touring....	1075	4	2770	aghn
2p. Bus. Coupe....	1040	2	2780	aghn
5p. Sedan, 2d....	1065	2	2905	aghn
5p. Sedan, 4d....	1145	4	2960	aghn
2-4p. Coupe....	1145	2	2875	aghn
"75"				
2-4p. Roadster....	1555	2	3190	aeghlmn
2-4p. Coupe....	1535	2	3235	aeghlmn
5p. Royal Sedan....	1535	.....	3340	aeghlmn
4-5p. Town Sedan....	1655	.....	3360	aeghlmn
"80"				
2-4p. Roadster....	\$2795	.....	3870	aeghlmpwx
5p. Sedan....	2945	4	4125	aeghlmpwx
7p. Sedan....	3075	4	4250	aeghlmpwx
5p. Town Sedan....	2995	4	4140	aeghlmpwx
7p. Sedan Lim....	3495	4	4285	aeghlmpwx
CUNNINGHAM				
"V-7"				
4p. Sp. Touring....	\$6500	4	4500	Ceghiklmpnx
7p. Touring....	7000	4	4600	Ceghiklmpnx
4p. Coupe....	8000	2	4700	Ceghiklmpnx
6p. Limousine....	8500	4	5000	Ceghiklmpnx
DAVIS "99"				
4p. Polo Rdster....	\$1795	2	3295	aeghlmpnx
5p. Touring....	1795	4	3325	aeghlmpnx
4p. Coupe....	1865	2	3345	aeghlmpnx
5p. Emp. Sedan....	1885	4	3475	aeghlmpnx
DE SOTO				
2-4p. Roadster....	\$845	2	2635	ghnw
5p. Phaeton....	845	4	2445	ghn
2-4p. Roadster....	880	2	2390	B
2p. Bus. Coupe....	845	2	2465	ghn
5p. Sedan....	845	2	2580	ghn
5p. Sedan....	885	4	2640	ghn
DIANA "St. 8"				
5p. Phaeton....	\$1695	4	3100	agmn
5p. Roy. Rdster....	1795	2	2995	agmnw
5p. P.B. Rdster....	1895	2	3160	Bgmnw
5p. Cab. Rdster....	1995	2	3160	agmnw
5p. Collap. Rdster....	1795	2	3170	aghlmpnx
5p. 2d. Sedan....	2095	4	3275	aghlmpnx
5p. 4d. Sedan....	2095	4	3275	aghlmpnx
DODGE BROS.				
"Std. 6"				
2-4p. Conv't Cab....	\$945	2	2570	Bghr
2p. Coupe....	875	2	2490	aghr
5p. Sedan....	895	4	2710	aghr
5p. Sedan DeL....	970	4	2780	aghr
5p. Sp. Sed. DeL....	1045	4	.....	Beghjkr
"Victory 6"				
5p. Touring....	995	4	2775	aghlmpnx
5p. Sp. Touring....	1245	4	.....	Beghiklmpnx
4p. Sp. Roadster....	1245	2	.....	Beghiklmpnx
2p. Coupe....	1045	2	2650	aghlmpnx
4p. Coupe DeL....	1170	2	2850	Beghiklmpnx
5p. Sedan....	1095	4	2855	aghlmpnx
4p. Brougham....	1095	2	2750	aghlmpnx
4p. DeL. Bro'm....	1170	2	2850	Beghiklmpnx
5p. DeL. Sedan....	1170	4	2955	aghlmpnx
5p. Sp. Sedan....	1295	4	3150	Beghiklmpnx
"Senior"				
5p. Vic. Bro'm....	1575	2	.....	agmnw
5p. Sedan....	1675	4	.....	agmnw
2-4p. Coupe....	1675	.....	.....	agmnw
5p. Sport Sed....	1795	4	.....	Bgiklmpnx
2-4p. Sp. Coupe....	1795	2	.....	Bgiklmpnx
5p. Landau Sed....	1845	.....	.....	Bgiklmpnx
du PONT "E"				
4p. Roadster....	\$2800	.....	3700	afghiklmpnx
5p. Touring....	2800	4	3850	afghiklmpnx
4p. Coupe....	3200	.....	3850	afghiklmpnx
4p. Conv't Coupe....	3400	2	3800	afghiklmpnx
5p. Sedan....	3400	.....	4100	afghiklmpnx
5p. Con. Sedan....	3750	4	4100	Bfghiklmpnx
"141" W.B.				
Roadster....	\$4360	.....	.....	Beghikprx
Sp. Phaeton....	4560	.....	.....	Beghikprx
7p. Touring....	4560	.....	.....	Beghikprx
Conv. Coupe....	4360	.....	.....	Beghikprx
Club Sedan....	4360	.....	.....	Beghikprx
5p. Sedan....	4410	.....	.....	Beghikprx
5p. Victoria....	4410	.....	.....	Beghikprx
5p. Limousine....	4675	.....	.....	Beghikprx
7p. Sedan....	4675	.....	.....	Beghikprx
7p. Limousine....	4875	.....	.....	Beghikprx
Conv. Sedan....	5150	.....	.....	Beghikprx
Town Cab....	5750	.....	.....	Beghikprx
DURANT				
"Four"				
Roadster....	\$595	.....	1950	ah
Coupe....	595	.....	2185	ah
5p. Sedan....	595	2	2330	ah
5p. Sedan....	695	4	2480	ah
2-4p. Conv. Cab....	.....	.....	2210	ahr
"55"				
2p. Coupe....	795	.....	2395	ah
3p. Sedan....	895	.....	2385	ah
5p. Brougham....	895	.....	421	ah
"65"				
5p. Touring....	795	4	2385	aghlmpnx
2-4p. Sp. Rdster....	1025	2	236	Beghiklmpnx
2-4p. Collap. Cab....	\$1045	2	2525	aghlmpnx
2-4p. Coupe....	975	2	2425	aghlmpnx
5p. Sedan....	975	2	2600	aghlmpnx
5p. Sedan....	1075	4	2675	aghlmpnx
5p. Brougham....	1175	4	2695	Beghiklmpnx
"75"				
5p. Sedan....	1385	4	3130	aghlmpnx
5p. Brougham....	1550	4	3180	Beghiklmpnx
ELCAR				
"6-70"				
4p. Roadster....	\$1295	2	2580	ahnr
5-7p. Touring....	1295	.....	.....	ahnr
5p. Brougham....	1295	2	2670	ahnr
5p. Sedan....	1295	4	2750	ahnr
"8-78" Std.				
2-4p. Roadster....	1395	2	.....	ahnr
5p. Touring....	1395	.....	.....	ahnr
2-4p. Coupe....	1395	2	.....	ahnr
5p. Sedan....	1395	4	.....	ahnr
"8-78 Royal"				
4p. Roadster....	1495	.....	.....	aeghlmpnx
5p. Touring....	1495	.....	.....	aeghlmpnx
4p. Coupe....	1495	.....	.....	aeghlmpnx
5p. Sedan....	1495	.....	.....	aeghlmpnx
"8-82"				
5-7p. Touring....	1695	.....	.....	aeghlmpnx
2-4p. Roadster....	1695	2	.....	aeghlmpnx
4p. Coupe....	1695	2	.....	aeghlmpnx
5p. Std. Sedan....	1695	4	3490	aeghlmpnx
5p. Prin. Sedan....	1895	4	.....	aeghlmpnx
"8-91"				
2-4p. Roadster....	1995	.....	.....	aeghlmpnx
4p. Coupe....	2295	.....	.....	aeghlmpnx
5p. Prin. Bro'm....	2295	4	.....	aeghlmpnx
5p. Prin. Sedan....	2295	4	.....	aeghlmpnx
"120"				
5-7p. Touring....	2465	4	.....	Beghikprx
5p. Std. Sedan....	2465	4	.....	aeghlmpnx
7p. Std. Sedan....	2565	4	.....	aeghlmpnx
ERSKINE SIX				
"52"				
5p. Touring....	\$835	4	.....	aghr
5p. Club Sedan....	860	2	.....	aghr
2p. Cabriolet....	875	2	.....	aghr
5p. Sedan....	945	4	2900	aghr
4p. Royal Cab....	995	2	.....	Bghikprx
5p. Royal Sedan....	1045	4	2900	Bghikprx
ESSEX				
"Super Six"				
5p. Phaeton....	\$750	4	2305	ahmr
2-4p. Roadster....	850	2	2365	ahmr
2-4p. Coupe....	775	2	2535	ahmr
5p. Sedan....	795	4	2660	ahmr
5p. Coach....	735	2	2560	ahmr
FALCON-KNIGHT				
"12"				
5p. Touring....	995	.....	2700	.....
4p. G.G. Rdster....	1195	.....	2935	Beghiklmpnx
5p. Sedan....	995	2	2800	ghnr
2-4p. Coupe....	1045	.....	2800	ghnr
5p. Sedan....	1095	4	2875	ghnr
FORD "A"				
2-4p. Roadster....	\$385	2	2086	Bgnr
5p. Phaeton....	395	4	2150	Bgnr
2p. Bus. Coupe....	495	2	2170	Bgnr
5p. Tudor Sedan....	495	2	2336	Bgnr
2-4p. Sp. Coupe....	550	2	2223	Bgnr
2p. Std. Coupe....	550	2	2220	Bgnr
5p. Fordor sedan....	625	4	2386	Bgnr

Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B. Price	Deers	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Deers	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Deers	Net Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Deers	Net Weight	Standard Equipment
FRANKLIN "Series 12 B" 119" W.B.					HUPMOBILE "Century 6"					LINCOLN "6"					MARMON "68"				
3n. Coupe	\$2825	3450	aeghklmnr		5p. Phaeton	\$1425	2900	aghn		2p. Spt. Rdstr.	\$4800	24700	aeghklmnr		2-1p. Roadster	\$1565	22700	ahmnrw	
4-5p. Vic. Bro'm	\$2760	3550	aeghklmnr		2-4p. Sportster	1435	22820	aghn		2-4p. Club Rdstr.	4800	4740	aeghklmnr		5p. Sedan	1465	42897	ahmnr	
5p. Sedan	2790	3590	aeghklmnr		7p. Phaeton	1455	42955	aghn		7p. Spt. Touring	4800	44940	aeghklmnr		5p. Coupe	1520	22867	ahmnr	
5p. Oz. Sedan	2790	3580	aeghklmnr		5p. Sedan 2d.	1345	22975	aghn		4p. Spt. Phaeton	4800	44910	aeghklmnr		2-1p. Coupe	1465	22827	ahmnr	
5p. Oz. Sedan	2910	3630	aeghklmnr		4p. Coupe	1345	22965	aghn		4p. Coupe	4800	44805	aeghklmnr						
3-5p. Con. Vt Cpe.	2850	3570	aeghklmnr		5p. Sedan	1395	43040	aghn		4p. Sedan	4800	45030	aeghklmnr		2-4p. Roadster	1965	23007	ahmnrw	
128" W.B.					2-4p. Cabriolet	1475	2965	aghn		5p. Sedan	4800	45010	aeghklmnr		2-4p. Coupe	1965	23097	ahmnr	
2-4p. Sp. Runab't.	2975	3440	aeghklmnr		"Century 8"					2p. Coupe	5000	4720	aeghklmnr		4p. Vic. Coupe	2065	23064	ahmnr	
5p. Sp. Touring	2975	3630	aeghklmnr		5p. Phaeton	1905	3285	aghn		7p. Sedan	5000	45050	aeghklmnr		5p. Sedan	1965	43104	ahmnr	
7p. Touring	3060	3630	aeghklmnr		2-4p. Sportster	1915	3335	aghn		7p. Limousine	5200	45165	aeghklmnr						
7p. Sedan	2380	3790	aeghklmnr		7p. Phaeton	1935	3355	aghn		4p. Berline	5500	5177	aeghklmnr		2p. Speedster	3485	24251	aeghklmnr	
7p. Oz. Sedan	2980	3790	aeghklmnr		5p. Sedan, 2d.	1825	23385	aghn		7p. Limousine	6500	5055	aeghklmnr		4p. Speedster	3485	24256	aeghklmnr	
7p. Limousine	3080	3870	aeghklmnr		4p. Coupe	1865	3375	aghn		6p. Ber. Landau	6500	5025	aeghklmnr		5p. Phaeton	3485	24017	aeghklmnr	
					5p. Sedan, 4d.	1875	43455	aghn		7p. Tour. Speed	6600	5030	aeghklmnr		7p. Tour. Speed	3565	44480	aeghklmnr	
					2-4p. Cabriolet	1955	3345	aghn		7p. Le Baron Cab	7000	4935	aeghklmnr		2p. Coupe Rdstr.	3565	4374	aeghklmnr	
										7p. Holbrook Cab	7200	5165	aeghklmnr		5p. Town Coupe	3195	24452	aeghklmnr	
										7p. Cabriolet	7300	5140	aeghklmnr		2p. Coupe	3435	24373	aeghklmnr	
															4p. Victoria	3435	24346	aeghklmnr	
															6p. Brougham	3565	44525	aeghklmnr	
															5p. Sedan	3565	44498	aeghklmnr	
															7p. Sedan	3640	44620	aeghklmnr	
															5p. Cus. Sedan	3960	44515	aeghklmnr	
															7p. Cus. Sedan	4075	44678	aeghklmnr	
															7p. Cus. Limou.	4175	44718	aeghklmnr	

KEY TO SYMBOLS

*—Italic figures denote shipping weight.

A—Wood wheels with spare.
a—Wood wheels.
B—Wire wheels with spare.
b—Wire wheels.
C—Optional wheels with spare.

- c—Type of wheels optional.
- D—Disk wheels with spare.
- d—Disk wheels.
- e—Front and rear bumpers.
- f—Front bumper.
- g—Shock absorbers or snubbers.
- h—Automatic windshield wiper.

i—Trunk and trunk rack.
j—Trunk rack, no trunk.
k—Spare tire.
l—Spare tire lock.
m—Engine heat indicator.
n—Dash gasoline gage.

- Car heater.
- p—Cigar lighter.
- r—Rear traffic signal.
- s—Spotlight
- t—Vanity and smoking set.
- u—Smoking set

v—Vanity set.
w—Windshield wings.
x—Clock
†—Overall length.
§—Prices on application.

Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Net Weight*	Standard Equipment					
OLDSMOBILE					PIERCE-ARROW					ROLLS ROYCE					STUTZ "BB"									
"F-28"					"81"					"Si. Ghost"					"Custom"									
2-4p. Sp. Rdstr.	\$995	2	2650	aeghmnr	2p. Runabout.	\$2600	2	3350	afghlmnr	Open Models.				Bghjkmpr	2p. Speedster.	\$3495	2	4478	aefghlmnr					
5p. Sp. Touring.	995	2	2640	aeghmnr	4p. Touring.	2700	4	3365	afghlmnr	Closed Models.				Bghjkmpr	4p. Speedster.	3595	4	4509	aeghlmnr					
2p. Coupe.	925	2	2650	aeghmnr	7p. Touring.	2850	4	3500	afghlmnr	"New Plan"				Beghikmpr	4p. Speedster.	3845	4	4660	aeghlmnr					
5p. Sedan, 2d.	925	2	2785	aeghmnr	5p. Club Bro'm.	2475	2	3540	afghlmnr	Open Models.				Beghikmpr	2p. Black Hawk.	4895	2	4302	beghilmnr					
2-4p. Spt. Coupe.	995	2	2680	aeghmnr	2p. Coupe metal.	2650	2	3460	afghlmnr	Closed Models.				Beghikmpr	4p. Black Hawk.	4945	2		beghilmnr					
5p. Sedan, 4d.	1025	4	2860	aeghmnr	5p. Brougham.	3250	2	3540	afghlmnr						2p. Coupe.	3495	2	4649	aeghilmnr					
5p. Landau Sed.	1085	4	2855	aeghmnr	2p. Coupe leath.	2650	2	3490	afghlmnr						4p. Vic. Coupe.	3495	2	4679	aeghilmnr					
"DeLuxe Series"					5p. Club Sedan.	2750	4	3635	afghlmnr	STEARNS-KNIGHT					131" W.B.									
5p. Phaeton.	1145	4	3800	Beghiklmnr	2-4p. Coupe met.	2750	2	3330	afghlmnr	"Series 80"					126" W.B.									
Roadster.	1145	2	2770	Beghiklmnr	5p. Sedan.	2750	4	3605	afghlmnr	2-4. Cab. Rdstr.	\$2495	2	2495	4		7p. Speedster.	3895	4	4748	aeghilmnr				
Spec. Coupe.	995	2	2760	Beghiklmnr	2p. Con't Cpe.	2850	2	3560	afghlmnr	5p. C.C. Sedan.	2495	4				5p. Country Club.	3895	4	5618	aeghilmnr				
Sport Coupe.	1145	2	3040	Beghiklmnr	5p. Club Land.	2850	4	3640	afghlmnr	5p. Sedan.	2495	4				7p. Sedan.	3895	4	5618	aeghilmnr				
Sedan.	1175	4	3805	Beghiklmnr	7p. Sedan.	2850	4	3700	afghlmnr	5p. Coupe.	2645					7p. Sedan Lim.	3995	4	5159	aeghilmnr				
DeL. Landau	1235	4	3005	Beghiklmnr	4p. Coupe.	2950	2	3490	afghlmnr	7p. Sedan.	2845					5p. Collap. Sed.	3995		5020					
OVERLAND					2-4p. Conv't Cpe.	2950	2	3525	afghlmnr	7p. Limousine.	2945					5p. Collap. Lim.	4095		5030					
"4" Whippet					7p. Enc. Dr. Lim.	2950	4	3755	afghlmnr	4p. Roadster.	\$250	2	4252	aeghiklmnr	"Wayman-Cus."									
5p. Touring.	\$455	4	1985	agr	7p. Sed. Landau.	3700	4	3700	afghlmnr	4p. Touring.	3250	4	4322	aeghiklmnr	131" W.B.									
2-4p. Roadster.	525	2	1932	agr	5p. Opera Bro'm	7000			afghlmnr	4p. Cab. Rdstr.	3550	2	4500	aeghiklmnr	2p. Black Hawk.	4895	2	4302	beghilmnr					
2p. Coupe.	535	2	2060	agr	PLYMOUTH					5p. Cus. Sedan.	3350	4	4562	aeghiklmnr	5p. Sedan.	4120	4	4393	aeghilmnr					
2-4p. Coupe Cab.	595	2	2122	agr	2p. Runabout.	5875	2	4560	afghlrx	5p. Coupe.	3450	2	4527	aeghiklmnr	4p. Sedan.	4120	2		aeghilmnr					
5p. Coach.	535	2	2160	agr	7p. Touring.	5875	4	4595	afghlrx	5p. Std. Sedan.	3450	4	4572	aeghiklmnr	4p. Coupe.	4120			aeghilmnr					
5p. Sedan.	610	4	2210	agr	7p. Sedan.	5875	4	4815	afghlrx	7p. Sedan.	3700	4	4647	aeghiklmnr	5p. Landau Sed.	4420	4		aeghilmnr					
"6" Whippet					7p. Lim. Encl.	5875	4	4870	afghlrx	"De Luxe H"					145" W.B.									
2-4p. Roadster.	685	2	2228	agr	3p. Coupe.	6375	2	4760	afghlrx	4p. Roadster.	5500	2			5p. Sedan.	4495	4		aeghilmnr					
5p. Touring.	615	4	2313	agr	4p. Cpe. Sedan.	6375	2	4795	afghlrx	4p. Cab Rdstr.	5500	2			5p. Sedan.	4545	4		aeghilmnr					
2-4p. Coupe.	695	2	2356	agr	4p. Sedan.	6375	4	4830	afghlrx	5p. Coupe.	5500	2	4942	afghmnrpx	7p. Sedan.	4745	4		aeghilmnr					
5p. Coach.	695	2	2423	agr	7p. Enc. Dr. Lan.	6000	4	4895	afghlrx	5p. Sedan.	5500	2	4942	afghmnrpx	7p. Limousine.	4995	4	4778	aeghilmnr					
5p. Sedan.	770	4	2484	agr	7p. Sedan Land.	6000	4	4840	afghlrx	5p. Cus. Sed. Lim.	3700	4	4637	aeghiklmnr	7p. Landau Lim.	5295	4		aeghilmnr					
PACKARD					4p. Lim. Encl.	6375	4	4840	afghlrx	"De Luxe J"					"Salon Cus."									
"326"					4p. C. C. Sedan.	6475	4	4805	afghlrx	7p. Touring.	5500	4	4872	afghmnrpx	5p. PW Sedan.	6345	4		aeghilmnr					
5p. Sedan.	\$2435	4	4185	dghmnrpx	2p. Coupe.	6600	2	4745	afghlrx	7p. Sedan.	5600	4	5167	afghmnrpx	7p. PW Sedan.	6345	4	5014	aeghilmnr					
2-4p. Coupe.	2510	2	4100	dghmnrpx	4p. Sedan Land.	6600	4	4795	afghlrx	7p. Limousine.	5800	4	5217	afghmnrpx	7p. Con. T'n Car	6895	4	5044	aeghilmnr					
2-4p. Con. Coupe	2585	2	4020	dghmnrpx	4p. Enc. Dr. Land.	6600	4	4880	afghlrx	"G8-85"					VELIE									
"63"					7p. Fr. Limou.	7500	4	4740	afghlrx	4p. Roadster.	3950	2	4448	aeghiklmnr	"6-55"									
2-4p. Runabout.	2535	2	3905	dghmnrpx	7p. Fr. Landau.	8000	4	4865	afghlrx	4p. Touring.	3950	4	4633	aeghiklmnr	3p. Coupe.	\$1195	2		ahmnr					
5p. Phaeton.	2535	4	3905	dghmnrpx	PONTIAC "6"					5p. Sedan.	5500	4			5p. Coupe.	1195	2		ahmnr					
7p. Touring.	2635	4	3950	dghmnrpx	2-4p. Roadster.	\$675	4	2160	ah	4p. Cabriolet.	4550	2	4717	aeghiklmnr	5p. Spec. Sedan.	1195	4		ahmnr					
4p. Coupe.	2735	2	4225	dghmnrpx	5p. Touring.	695	4	2255	ah	5p. Sedan.	4650	4	4934	aeghiklmnr	5p. Royal Sedan.	1195	4		ahmnr					
5p. Club Sedan.	2735	2	4240	dghmnrpx	2p. Coupe.	685	2	2295	ah	7p. Touring.	5500	4	4872	afghmnrpx	"6-68"									
7p. Sedan.	2735	4	4440	dghmnrpx	5p. Sedan, 2d.	700	2	2435	ah	7p. Sedan.	5600	4	5167	afghmnrpx	5p. Std. Touring.	1195	4	2960	aeghmnr					
7p. Sedan Lim.	2835	4	4475	dghmnrpx	2-4p. DeL. Coupe	735	2		ah	7p. Limousine.	5800	4	5217	afghmnrpx	5p. Sp. Touring.	1265	4	2985	aeghmnr					
"640"					5p. Sedan, 4d.	735	4	2460	ah	"G8-85"					3-5p. Coupe.	1265	2	2980	aeghmnr					
2-4p. Runabout.	3175	2			PONTIAC "6"					4p. Roadster.	3950	2	4448	aeghiklmnr	5p. Coupe.	1265	2	3070	aeghmnr					
5p. Phaeton.	3175	4			2-4p. Roadster.	\$745	2	2270	ahn	4p. Touring.	3950	4	4633	aeghiklmnr	5p. Spec. Sedan.	1265	4	3100	aeghmnr					
7p. Touring.	3275	4			5p. Sp. Phaeton.	775	4	2425	ahn	4p. Cabriolet.	4550	2	4717	aeghiklmnr	5p. Royal Sedan.	1265	4	3100	aeghmnr					
2p. Coupe.	3250	2			2p. Coupe.	745	2	2435	ahn	4p. Coupe.	4550	2	4882	aeghiklmnr	5p. Std. Touring.	1515	4	3160	aeghmnr					
2-4p. Conv. Cpe.	3350	2			5p. 2d. Sedan.	745	2	2520	ahn	5p. Sedan.	4650	4	4934	aeghiklmnr	5p. Sp. Touring.	1585	4	3185	aeghmnr					
5p. Club Sedan.	3750	4			4p. Sport Cab.	795	2	2455	ahn	7p. Sedan.	4750	4	5027	aeghiklmnr	3-5p. Coupe.	1585	2	3230	aeghmnr					
7p. Sedan.	3750	4			5p. Sp. Sedan.	825	4	2595	ahn	5p. Royal Sedan.	4850	4	5009	aeghiklmnr	5p. Coupe.	1585	2	3270	aeghmnr					
7p. Sedan Lim.	3850	4			5p. Sp. Landau.	875	4	2640	ahn	7p. Limousine.	5250	4	5102	aeghiklmnr	5p. Royal Sedan.	1585	4	3300	aeghmnr					
PEERLESS					REO					STUDEBAKER					"8-90"									
"6-60"					"Flying Cloud"					"Dictator"					131" W.B.									
2-4p. Roadster.	\$1195	2	2635	oghmnrw	2-4p. Roadster.	\$1685	2	3350	aeghmnr	5p. Touring.	\$1265	4			5p. Std. Touring.	2025	4		aeghmnr					
5p. Phaeton.	1195	4	2635	oghmnrw	5p. Brougham.	1645	2	3355	aeghmnr	7p. Touring.	1325	4			5p. Sp. Touring.	2095	4		aeghmnr					
2-4p. Coupe.	1295	4	2775	oghmnr	2p. Sp. Coupe.	1625	2	3445	aeghmnr	5p. Club Sedan.	1185	2			3-5p. Coupe.	2095	2		aeghmnr					
5p. Brougham.	1195	4	2850	oghmnr	4p. Victoria.	1795	2	3550	aeghmnr	5p. Sedan.	1265	4	3280	aeghmnr	5p. Coupe.	2095	2		aeghmnr					
5p. Sedan.	1195	2	2780	oghmnr	5p. Sedan.	1845	4	3645	aeghmnr	2p. Bus. Coupe.	1265	2			5p. Royal Sedan.	2095	4		aeghmnr					
5p. Sedan.	1295	4	2905	oghmnr	5p. DeL. Sedan.	1995	4	3645	aeghmnr	4p. Victoria.	1345	2			5p. Spec. Sedan.	2095	4		aeghmnr					
"6-91"					"Wolverine"					"Commander"					"Great 6"									
2-4p. Coupe.	1895	3225	oghmnr	4p. Cabriolet.	1195	2850	aeghmnr	5p. Touring.	\$1265	4				2-4p. Roadster.	\$995	2	2631	aghar						
5p. Sedan.	1895	4	3355	oghmnr	5p. Sedan.	1195	2	2930	aeghmnr	7p. Touring.	1325	4			5p. Touring.	995	4	2710	aghar					
4p. Victoria.	1895	4	3240	oghmnr	5p. Sedan.	1295	4	3090	aeghmnr	5p. Club Sedan.	1185	2			2-4p. Coupe.	1045	2	2507	aghar					
7p. Sedan.	1995	4	3420	oghmnr	ROAMER					5p. Royal Sedan.	1395	4	3415	Bghilmnr	5p. Coach.	995	2	2816	aghar					
"6-81"					"8-78"					"President"					"Great 6"									
5p. Phaeton.	1540	4		aeghlmnr	2p. Roadster.	\$1595	2	3450	ag	4p. Sedan.	1495	4	3665	aeghmnr	5p. Sedan.	1095	4	2858	agharu					
7p. Touring.	1595	4		aeghlmnr	2p. Coupe.	1750	2	3225	ag	5p. Victoria.	1545	2			2-4p. Roadster.	1850	2	3486	aghmnr					
2-4p. Coupe.	1595	3140	eghlmnr	5p. Sedan.	5p. Sedan.	1795	2	3380	ag	5p. Sedan Regal	1685	4	3815	Bghilmnr	5p. Touring.	1850	4	3675	aghmnr					
4p. Victoria.	1595	3155	aeghlmnr	"8-80"					4p. State Rdstr.	1850	2			2-4p. Cab Coupe	1995	2	3726	aghmnr						
5p. Sedan.	1595	4	3270	aeghlmnr	2p. Roadster.	1895	2	3310	ag	5p. State Cab.	1850	2			4p. Foursome Sed	2195	4	4128	Bghilmnr					
"8-69"					2p. Coupe.	1985	2	3410	ag	4p. State Vic.	1850	2			5p. Sedan.	1995	4	4003	aghmnr					
126" W.B.					5p. Brougham.	1985	2	3440	ag	5p. State Sedan	1850	4	3900	Bghilmnr	7p. Touring.	2285	4	3943	aghmnr					
5p. Coupe.	\$2345	3905	Deghilmnr		5p. Sedan.	1985	4	3570	ag	7p. State Tour.	\$2485	4	4125	Bghiklmnr	5p. Coupe.	2295	2	3939	aghmnr					
133 1/2" W.B.					"8-88"					4p. Cabriolet.	2085	4	4120	aghmnr	7p. Sedan.	2595	4	4112	aghmnr					
2-4p. Roadster.	2245	2	3710	Deghilmnr	5p. Tourer.	\$2495	4	3650	og	7p. Limousine.	2450	4	4395	Bghiklmnr	7p. Limousine.	2695	4	4146	aghmnr					
5p. Sedan.	2345	4	3875	Deghilmnr	2-4p. Roadster.	2750	2	3540	og	WILLIS-KNIGHT					"Spec. 6"									
7p. Sedan.	2545	4	3975	Deghilmnr	2p. Speedster.	2985	2	3880	og	"Std. 6"					2-4p. Roadster.	1350	2	2910	aghmnr					
7p. Limousine.	2645	4	4200	Deghilmnr	5p. Sedan.	2985	4	3980	og	"Std. 6"					5p. Touring.	1295	4	2951	aghmnr					
																				2p. Coupe.	1295	2	2767	aghmnr
																				5p. Coach.	1295	2	3007	aghmnr
																				2-4p. Cab Coupe	1495	2	2918	

Mechanical Specifications of Current Passenger Car Models

This list comprises current cars distributed on a national basis only. Data for previous models back to 1920 will be found in the Chilton Catalog and Directory

MAKE AND MODEL	Wheel Base (Inches)	Tire Size	Make and Model	Number of Cyls.	Bore and Stroke	Rated H.P.	Piston Displacement	Valve Arrangement	Maximum Brake Horsepower at Specified Speed	Compression Ratio	Camshaft Drive	Piston Material	No. Main Bearings	Crankshaft Vibration Damper	Oil Cleaning System	Radiator Shutter	Carburetor	Air Cleaner?	ELECTRICAL SYSTEM		Clutch—Type and Make	Gear Set—Type and Make	Make	REAR AXLE		BRAKES		Steering Gear—Type and Make	Rear Spring—Type and Length	Chassis Lubrication—	ABBREVIATIONS—NAMES OF MFRS. OF STOCK PARTS
																			Generator and Starter Make	Ignition System				Type and Make	Location	Hand—Type and Location	4-Wheel Type				
Auburn.	76	28x5.25	Lyc.	6-27x4 1/2	8-3 1/2 x 4 1/2	19.8	185 L.	L.	60-3400	5.05	Ch.	Al.	4	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	War.	m-U-P.	Col.	4.9	E-T.	H.	Ross.	S-56 1/2	Bij.	A-Bas—American-Beech
Auburn.	88	30x6.00	Lyc.	8-27x4 1/2	8-3 1/2 x 4 1/2	26.4	247 L.	L.	88-3200	5.15	Ch.	Al.	5	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	War.	m-U-P.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	A-K—Atwater Kent
Auburn.	115	30x6.00	Lyc.	8-27x4 1/2	8-3 1/2 x 4 1/2	33.8	299 L.	L.	115-3300	5.25	Ch.	Al.	5	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Det.	m-U-P.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	A-L—Auto-Lite
Buick.	116	30x5.50	Own.	6-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	26.3	239 L.	L.	74-2800	4.56	He.	Al.	4	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Ada—Adams
Buick.	121 & 129	30x5.50	Own.	6-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	31.5	310 L.	L.	91-2800	5.3	He.	Al.	4	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Ala—Alameda
Cadillac.	124	32x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	33.7	331 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	65	28x5.00	Own.	6-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	118	28x5.00	Own.	6-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	Ross.	S-56 1/2	Bij.	Am—Alameda
Chandler.	124	30x6.00	Own.	8-3 1/2 x 4 1/2	8-3 1/2 x 4 1/2	23.8	254 L.	L.	85-3000	5.0	Ch.	Al.	3	Y.	PG.	N.	N.	N.	N.	D-R.	D-R.	Own.	m-Own.	Col.	4.7	E-T.	H.	R			

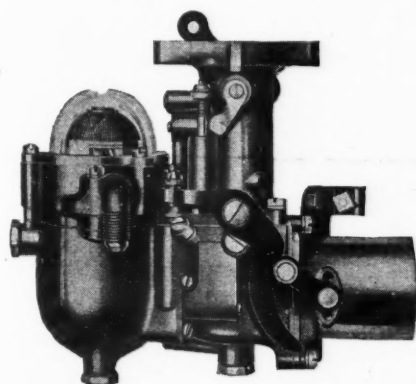


He
thought it was
a "side line"

BUT—it was a business!

Stromberg Vis-a-Gas Carburetor

New and Better—Specially built for the latest model Ford, Chevrolet, Pontiac, Whippet, Star, and for practically every make of car. The most highly developed and most dependable carburetor made. Assures easier starting, Smoother Idling, Snappier Acceleration and more Economical Operation—meeting more completely the particular requirements of every car and the demands of the motorist. A revelation in performance. Let us tell you why.



He was a top-notch business man—aggressive but cautious. He decided to handle Stromberg Carburetors *as a side line*. He soon discovered that the tail was wagging the dog. He found Stromberg his biggest and most profitable line. He sold \$18,000.00 worth of Stromberg products in 1927 at a handsome profit in a town of 35,000 people. With the amazing new Stromberg Vis-a-Gas Carburetor his sales for this year are far ahead of 1927. He has gained the respect and confidence of his community by selling an article of great merit. He has hundreds of boosters because he sold them something that exceeded their expectations.

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CARBURETOR

"The Accepted Standard"

Mechanical Specifications of Current Passenger Car Models—Continued

MAKE AND MODEL		Wheel Base (Inches)	Tire Size	ENGINE										ELECTRICAL SYSTEM				REAR AXLE				BRAKES		Steering Gear—Type and Make	Rear Spring—Type and Length	Chassis Lubrication—	ABBREVIATIONS— NAMES OF MFRS. OF STOCK PARTS					
				Make and Model	Number of Cyls.	Bore and Stroke	Rated H.P.	Piston Dis- placement	Valve Arrangement	Maximum Brake Horsepower at Specified Speed	Compression Ratio	Camshaft Drive	Patron Material	No. Main Bearings	Crankshaft Vibra- tion Damper?	Oil Cleaning System	Oil Cleaner?	Carburetor	Air Cleaner?	Ignition System	Generator and Starter Make							Clutch—Type and Make	Gear Set—Make	Universal—Type and Make	Type and Make	Gear Ratio	Foot—Type and Location	Hand—Type and Location	4-Wheel Type
Kissel	8-126	132-139	30x6 75	Own	90	8-3 1/4 x 4 1/4	33.8	290	L	126-3400	5.35	Ch.	Al.	9	Y	PA	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
La Salle	125-134	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	86-3000	5.3	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Lincoln	8-70	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	90-2800	4.8	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	70-3000	5.1	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	105-2100	4.25	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	86-2800	4.25	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	76-3200	5.25	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	115-3300	5.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al.	A-Bee—American-Beech
Locomobile	8-80	30x6 75	Own	8	8-3 1/4 x 4 1/4	33.8	290	L	120-2400	4.34	Ch.	Al.	9	Y	PA	Y	Y	Y	Sch.	Y	D-R	D-R	P.B&B.	W.G.	m-Mec.	4.89	E-T	H	Ross.	8-60	Al	

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"Flexo" Jacketed Type Heater



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Complete
\$10.00

Interchangeable end locking rings make the one heater model adaptable to 95% of all cars. Heater body encloses a section of the exhaust with funnel located just back of the motor fan. Nicked register and metal tubing furnished.

Cooper Manufacturing Co.,
Marshalltown, Iowa

Send us complete details of the Cooper Heater Line for this year.

Name

Address

City.....

State.....



List Price
Complete
\$22.50

Every New Car is A Prospect for Cooper Heaters

The ever increasing popularity of closed cars has done away with the old practice of storing them for the winter. Car owners of today drive twelve months out of the year and a very large percentage of them are in the market right now for better heating equipment.

The complete line of Cooper Car Heaters offers the garage, accessory store or service station a wonderful opportunity to close these sales and to reap the worth-while profits produced by quick turnover on a small investment in stock. There is a Cooper Heater designed to fit and heat every motor car.

Cooper DeLuxe Exhaust Type Heater

This wonderful heater, shown above, is distinguished by the polished aluminum floor register 21½ inches long and 7½ inches wide. Heater complete includes Cooper 3-Way Valve, Dash Control, Tubing and Instructions.

Rail Type Exhaust Heater

An efficient heater for coupes and small sedans. Floor register 16 inches serves as convenient foot rest. Olive green lacquer finish.

Complete with Valve, Dash Control, Tubing and Instructions.

List Price
Complete
\$15.00



Standard Exhaust Heater

A real heater at a remarkable low price. Perforated steel floor register is 14½" by 6½" finished in olive green lacquer.

List Price
Complete
\$12.50



Cooper

PRODUCTS

Manufactured by

COOPER MANUFACTURING COMPANY

Marshalltown, Iowa, U. S. A.

Exclusive Sales Representatives

THE FULTON COMPANY, Milwaukee, Wisc.

Mail This For Complete Information

Denatured Alcohol C

Cold Weather W

Millions read Ads that bu



Cold Weather Coming, says newspaper. Letter get Denatured Alcohol in the radiator, and avoid a lot of trouble.



Millions of people will read these Cold Weather Warning advertisements . . . and then buy their Denatured Alcohol.

COLD WEATHER COMING! . . . warns the Weather Bureau. Out go telegrams to newspapers in the "Cold Weather Zone."

In a few short hours newsboys are selling the papers on the street. Millions of car owners are reading Denatured Alcohol ads featuring cold weather forecasts.

Thus are millions being warned—in time—to protect their cars this winter with Denatured Alcohol.

It's a real, helpful service for motorists. And a profitable service for dealers, too.

Millions of people are learning that Denatured Alcohol is the best Anti-Freeze. Learning that all car manufacturers approve it . . . that the majority specify it exclusively. And they're being told to go to the garages, service stations and auto dealers where they see the red and green Denatured Alcohol sign.

"Free Testing Service" . . . that's what this sign says. And it

will bring a lot of business to the dealers who display it.

All winter long, motorists should have their radiator solutions tested. This means safety for them . . . and greatly increased profits for you.

Extra Profits—How to Get Them

No progressive dealer needs to be told that he should push and sell Denatured Alcohol during the winter. Winter profits are too hard to make . . . and Denatured Alcohol too easy to sell . . . to require the slightest bit of explanation. But we want to make sure that you get the utmost benefit from our advertising campaign.

Put up the red and green sign. Make sure that you have the Alco-Tester. Offer free testing service to the motorists in your neighborhood. Remember . . . Free Testing Service brings them back to you instead of somebody else.

Mail Coupon Now for Alco-Tester

We need your cooperation to insure this campaign's success. The only way to get business is to go out aggressively after it.

As the first step will you be sure to offer this free testing service . . . order your Alco-Tester today.

Just clip \$1 to the coupon below and we'll send you an Alco-Tester. This is a special price . . . set remarkably low . . . so that every Denatured Alcohol dealer will buy one. The Denatured Alcohol Protection Chart will be sent with every Alco-Tester as well as the outdoor fibre sign shown in the pictures on the right.

\$1 to increase your Winter Profits many times . . . surely that's not too much to ask. Clip the coupon now while the subject is on your mind. Mail it today!

**Mail Coupon
With One Dollar for
ALCO-TESTER**

The Industrial Alcohol Institute, Inc.
30 East 42nd St., New York, N. Y.

Gentlemen: Here's my dollar for the Alco-Tester. I am to receive also the Denatured Alcohol Chart and sign.

Name _____

Address _____

City _____

State _____

**Free Testing
Service Makes Money
for Dealers**

ol Campaign Based On r Warnings at build DEALER PROFITS



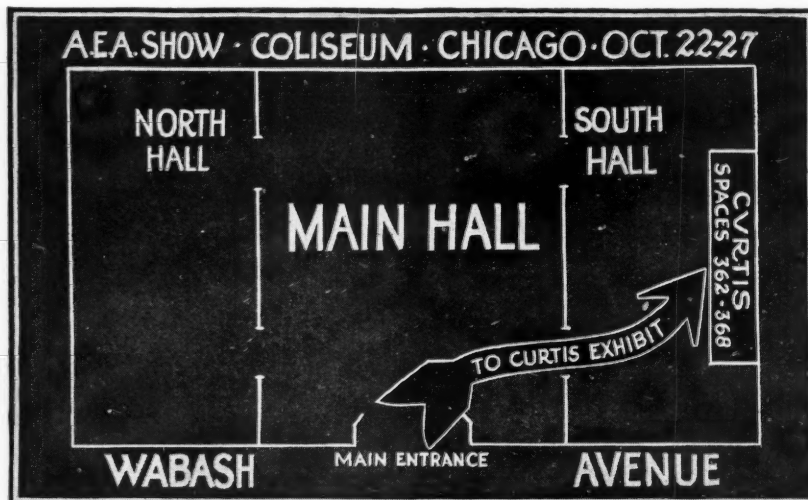
WHAT A DRAMATIC STORY these pictures tell. Cold weather swoops down from the North . . . and motorists hurry to buy Denatured Alcohol. Here's winter profits for you!



"CHEAP INSURANCE this Denatured Alcohol," says motorist. "A frozen radiator is no joke." No wonder dealers everywhere are getting ready for a big demand.



1854 - Seventy-fifth Year - 1929



Big News!

To celebrate Curtis' 75th Anniversary, a completely new line of compressors, car washers, air stands and rotating lifts with

new features

of interest and importance to the entire industry will be announced and exhibited October 22-27 at the

A. E. A. Show

Spaces 362-368, South Hall, Coliseum, Chicago. Come expecting to see a revelation in design conforming with the most modern trends of the automotive industry

SP1

Curtis

Pneumatic Machinery Company

ST. LOUIS

St. Louis
Address
1957 Kienlen Ave.

New York
Address
518W Hudson Term.

There's a joker in the "cheap" lacquer can!

"Cheap" lacquer doesn't cost much a gallon. So, it seems to save you money.

But once "cheap" lacquer gets on the job in your finishing shop, the joker pops up.

And oh! what a laugh he gets on you then. How quickly he *wastes* your money!

The car "eats up" the lacquer—takes more material—nozzles clog—"bubbles" and "orange peel" mar the finish—sanding and polishing take longer. And even the most skilled finisher you have can produce only a cheap-looking job.

For a truly economical finish, use Opex Automotive Lacquers *throughout*. Less Opex is required—much less time and labor—its superior working qualities speed up the finish—reduces costs all through the job.

But that's only half the story.

Opex finishes—unmatched for beauty, rich color, and durability—are worth more to your customers. They *win friends and repeat business for you*.

Just remember this: "cheap" lacquers are *far too costly for your shop*. Opex Lacquer Enamels—quality always—bring much more profitable returns.

THE SHERWIN-WILLIAMS CO.

Largest Paint and Varnish Makers in the World
Cleveland, Ohio



"Modern Automobile Finishing Methods"

Send for this valuable handbook, of interest to skilled finishers and beginners alike. Discusses fully both the quick, over-the-old-finish and the "quality" job.



SHERWIN-WILLIAMS



LACQUERS

THE SHERWIN-WILLIAMS CO.

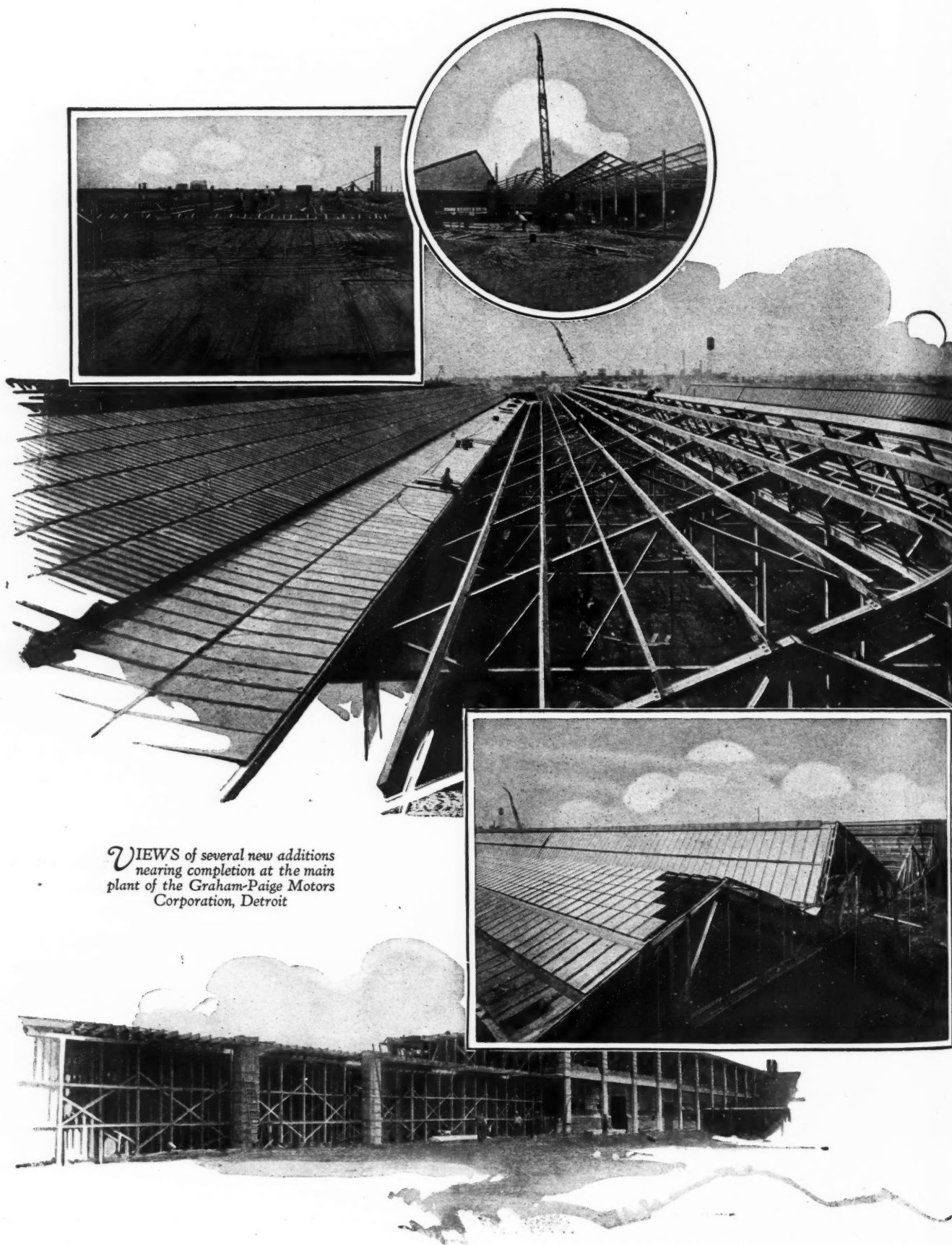
601 Canal Road, N. W., Cleveland, Ohio

Gentlemen:

Please send me complete data on Opex Automotive Lacquers.

Business title Name

Street City State



*VIEWS of several new additions
nearing completion at the main
plant of the Graham-Paige Motors
Corporation, Detroit*

GRAHAM-PAIGE

GROWTH...in Production...and in Sales

Open territories for the distribution of Graham-Paige motor cars are being closed as rapidly as production facilities are increased.

The Graham-Paige organization is steadily growing—in production, and in sales. Factory floor space, including several new buildings now under construction, amounts to twice what it was when the three Graham brothers assumed ownership control. Our dealer and distributor organization has more than doubled since last January.

Graham-Paige distributors and dealers are business men of Character, Capability and Capital—and we are always glad to receive inquiries from men of this type.



Address Communications to
Graham-Paige Motors Corporation
Detroit, Michigan, U. S. A.

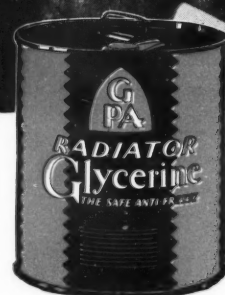
Joseph B. Graham
Robert C. Graham
Ray A. Graham

GRAHAM-PAIGE

"Our customers are
asking for Radiator



*Mr. R. H. Thomas is the Manager of the Service
Department of the Citizens Motor Car Company,
Packard Distributors, of Cincinnati, Ohio. He is a
great believer in Radiator Glycerine. Read why.*



Glycerine

—R. H. Thomas



REG. U.S. PAT. OFF.

ARE YOU going to sell anti-freeze this winter? Then read this message from the Citizens Motor Car Company, Packard Distributors, of Cincinnati, Ohio.

It comes from R. H. Thomas, Manager of the Service Department:

"It seems to us that car owners are beginning to realize that all anti-freeze solutions aren't alike.

"For instance, if one kind gives protection all winter while others have to be renewed frequently at considerable additional cost, then it is natural, we think, for motorists to be willing to pay more to get fixed up for the entire season.

"That's probably the principal reason why so many of our customers are asking for Radiator Glycerine.

"Another is that it doesn't leave spots on lacquer. And since its boiling point is even a few degrees higher than water, Radiator Glycerine is fine for use with radiator shutters.

"Naturally, since your product costs more, and since the only chance of losing it is through waste or leakage, because it doesn't evaporate, no car should be serviced with Radiator Glycerine without a thorough tightening of all cooling system connections. This we insist on.

"We consider it a highly satisfactory product both from the standpoint of service to our customers and profit to ourselves."

RADIATOR Glycerine

THE SAFE ANTI-FREEZE

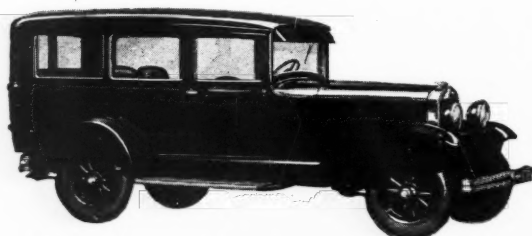
When you sell Radiator Glycerine you sell safety and satisfaction. Ample protection against freezing. No evaporation. No unpleasant odor. No risk to the car finish. No mysterious ingredients. Non-poisonous. Non-inflammable. Safe.

One filling lasts all winter. Good enough for Amundsen to use at the North Pole. Good enough to meet government requirements of a perfect anti-freeze. It pleases your customers and makes money for you.

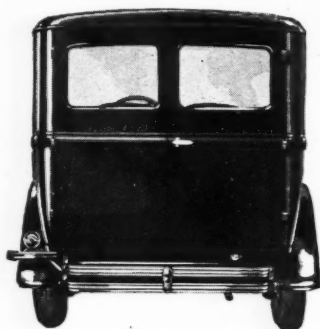
GLYCERINE PRODUCERS' ASSOCIATION
45 EAST 17TH STREET, NEW YORK CITY

FARGO

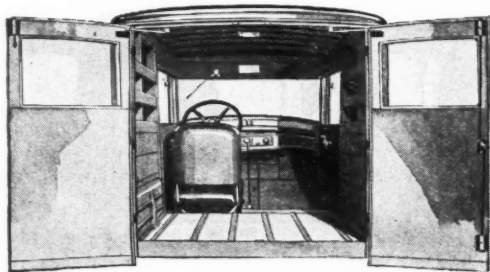
Now, A NEW SERIES OF



FARGO CLIPPER SEDAN—ideal for salesmen, for merchandise display, for station wagon or bus service. Seating capacity can be provided for nine, with seats instantly removable to permit use of compartment for standard load.



Vast production permits such engineering and manufacturing refinements as the die-moulded rear corners that add to Fargo beauty and construction. Rear doors are equipped with heavy-duty door checks. Key-locking handles are also provided for the rear doors, with key interchangeable for front and rear doors.



Selected hardwood interior is in natural finish. Hand-some instrument panel, vision-ventilating windshield, rubber mat, well-placed controls, floor draft plates, genuine leather seats unusually comfortable for the driver, are Fargo features, unusual in commercial cars. Pillars, roof rails and sills are of sturdy construction.

FARGO PACKET PANEL
(Complete with Body)

\$795

F.O.B. DETROIT

NOW, in the New $\frac{1}{2}$ -ton Fargo Packet and in the $\frac{3}{4}$ -ton Fargo Clipper—first of a new series of delivery trucks—Chrysler enters the commercial car field. Announcement of the 1-, $1\frac{1}{2}$ - and 2-ton trucks will be made later.

In these commercial cars low-cost transportation receives tremendous advantages from the smartness, power, dependability and economical operation which have lifted Chrysler, in four years, to its present position of leadership.

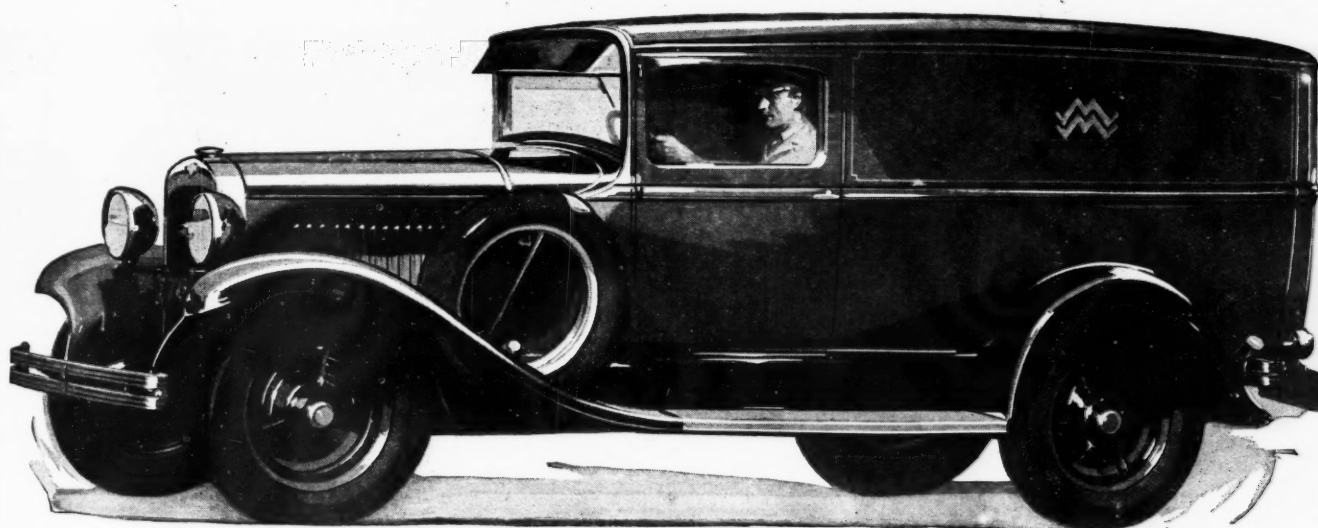
From the day that the first great wave of Chrysler preference swept over the country, American business has insistently demanded commercial cars worthy of Chrysler traditions.

The New Fargo is essentially and unmistakably Chrysler.

It brings to the business world commercial cars, designed and built for commercial purposes, which are in themselves advertisements of the progressiveness, high standing and efficiency of the merchants whom they serve.



COMMERCIAL CARS AND TRUCKS BY CHRYSLER



In both the one-half and the three-quarter ton capacities—in four-cylinder and six-cylinder types—Fargo clearly establishes the results which artistic designing skill can produce in cars of strictly utilitarian purpose.

Here, for the first time in standard production, you obtain the type of construction and the distinctive appearance you have in the past expected only in special custom-built commercial bodies.

To this entirely new phase of practical beauty, the New Fargo adds a new degree of economy in operation, dependability, service assurance

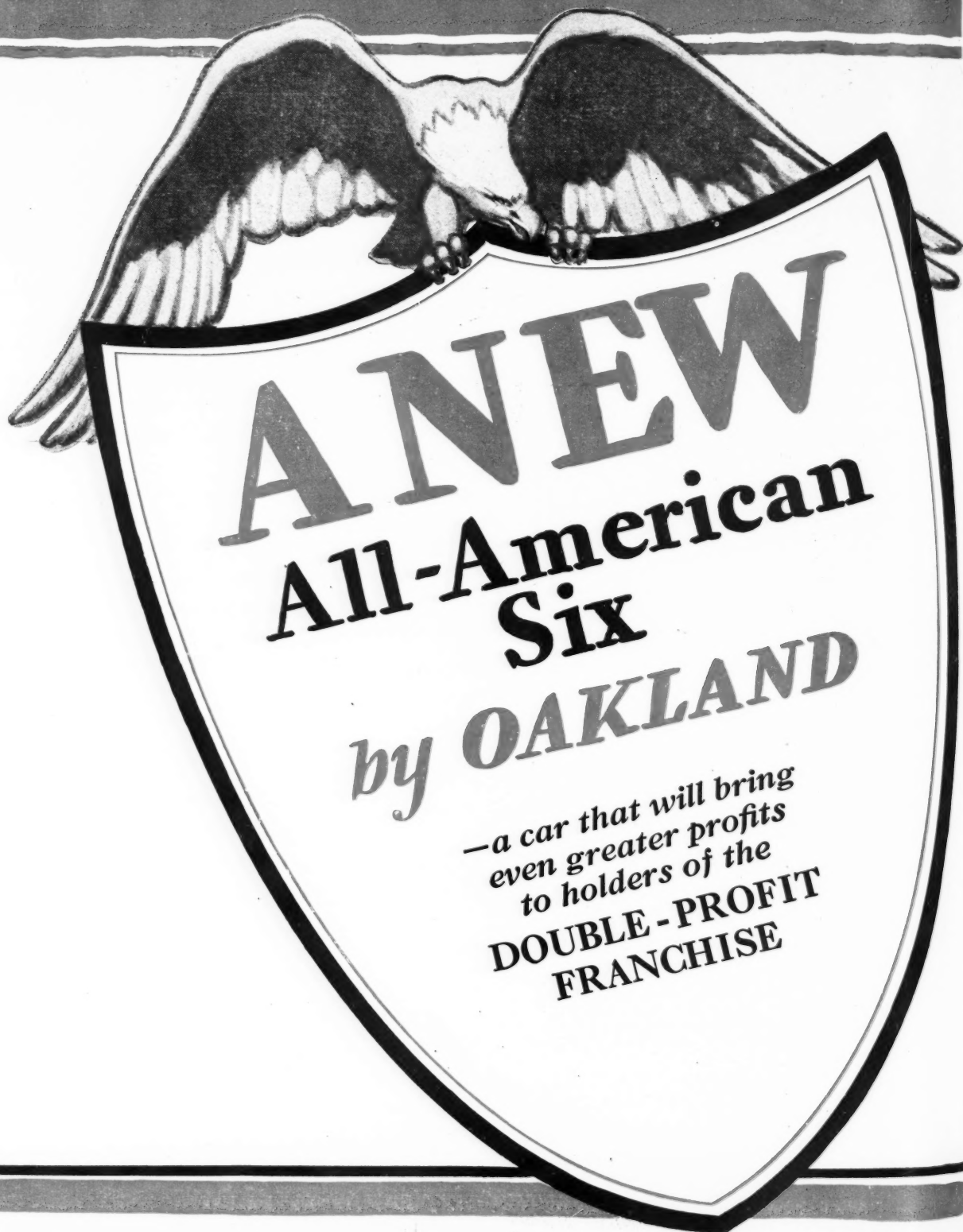
and performance brought about by engineering developments in the "Silver-Dome" high-compression engine, using any gasoline.

We have a sales agreement that presents additional profit possibilities for any motor car dealer. This may be the very opportunity you have been seeking for a commercial car franchise that will increase your business. Wire, write or telephone at once for further details.

Fargo ½-Ton Packet Prices—Panel \$795; Sedan \$895; Chassis \$545.
Fargo ¾-Ton Clipper Prices—Panel \$975; Sedan \$1075; Chassis \$725.
{Prices of the Fargo 1-, 1½ and 2-ton trucks will be announced later.}
All prices f. o. b. Detroit. Fargo dealers are in a position to extend the convenience of time payments.

FARGO MOTOR CORPORATION, DETROIT, MICHIGAN
{Division of Chrysler Corporation}

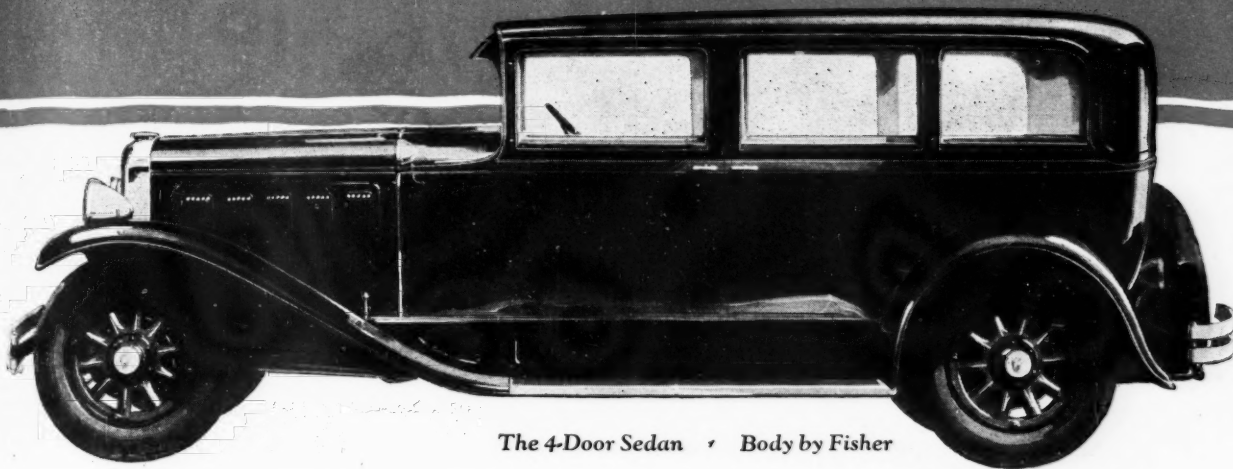
DEALERS - Read Announcement of



A NEW
All-American
Six
by OAKLAND

—a car that will bring
even greater profits
to holders of the
DOUBLE - PROFIT
FRANCHISE

This Important



The 4-Door Sedan • Body by Fisher

For years Oakland-Pontiac dealers have been enjoying the advantage provided by a manufacturer who has always kept them supplied with cars that were new and different and far ahead of the times. They have been selling cars so advanced in design and value as to attract buyers in record-breaking numbers. They have seen their showrooms packed time after time by the popular appeal of Oakland and Pontiac Sixes.

And now they are again destined to benefit from tremendous public interest. For Oakland is presenting a New All-American Six embodying all these examples of advanced design:

Seven Beautiful New Bodies—typifying the genius of Fisher in the creation of new and different styles. Including two convertible closed cars—the Convertible Cabriolet and the Landaulet Sedan. All closed cars with adjustable drivers' seats.

A Larger, More Powerful Engine—providing top speed of 70 miles per hour and more, 68 brake horse-power at 3000 r.p.m. and acceleration from 10 to 25 m.p.h. in six seconds flat. Exclusive patented rubber cushion engine mountings. 228 cubic inches piston displacement. A larger, more highly perfected carburetor.

New intake manifold. New type AC air cleaner. AC gasoline pump. Larger oil pump. Increased water jacketing. The cross-flow radiator with thermostatic control. 81-lb. crankshaft. Harmonic Balancer. The G-M-R cylinder head.

New Internal-Expanding Four-Wheel Brakes. New improved steering mechanism. New, larger diameter, slender rim steering wheel. Massive 10-spoke artillery wheels. Improved universal joints. New fully shielded gasoline tank of 15 gallons capacity. New instrument panel. Semi-coincidental ignition and transmission lock.

New Seamless Full-Crown Fenders of Flaring Type. Chrome-plated radiator shell. Chrome-plated headlights, cowl-lights and tail-light. Chrome-plated cowl bar, hood hinge and brackets for cowl lamps.

Lovejoy Hydraulic Shock Absorbers. Spring covers. 117 inch wheelbase. Oversize balloon tires.

And these are only the highlights of this great New All-American Six—a car which offers even greater money-making opportunity to dealers in every section of the United States.

Would you like to sell the New All-American Six—especially in conjunction with the record-breaking Pontiac Six? Why not learn all about the Oakland-Pontiac Double-Profit Franchise and the profit-earning possibilities it provides? Write Dept. C today!

OAKLAND MOTOR CAR COMPANY, PONTIAC, MICHIGAN



9th
RECORD
BREAKING
MONTH!



Greatest September in Willys-Overland History

— more than doubles last September!

Month after month, Willys-Overland's sales records have been smashed throughout the year! And the big parade goes on — last month was the greatest September in the Company's 20-year history!

It was the ninth consecutive record-breaking month. Sales of Whippet and Willys-Knight motor cars were more than double those for September, 1927.

This towering structure of success has its foundations deep down in the sound elements of dollar-for-dollar value — in proved operating economy and dependable performance of the Whippet Four, Whippet Six and Willys-Knight Six.

Willys-Overland is one of the world's three largest producers of automobiles — and this is Willys-Overland's record year!

Write or wire for franchise particulars.

WILLYS-OVERLAND, INC., TOLEDO, OHIO

WILLYS-OVERLAND SALES CO., LTD., TORONTO, CANADA

FOURS ***Whippet*** **SIXES**

WILLYS-KNIGHT SIX



NEW LAPS Systems

REG. U. S. PAT. OFF.

with Parts Index System, Bin Loading Diagram. **MOVIT** quick-change dividers

Reg. U. S. Pat. Off.

Stock Record Card furnished for use in Parts Index Board

NAME OF PART	PART NUMBER	LIST PRICE	LOCATION			MIN.	MAX.
			UNIT	SHELF	BIN		
CON. ROD	19131	2 10	12	A	4	4	8
PISTON					7	8	16
FAN					3	1	3
						3	7
						2	5

MOVIT, the quick change divider fastener that makes every bin in a LAPS System instantly adjustable and eliminates the use of bolts in fastening dividers.

PATENT APPLIED FOR

Parts Bin Loading Diagram for unit 1 of the 2 unit system in background. This diagram furnished with each system indicates location of bins in car assembly group where parts are to be stored.

Parts Index Board furnished with every new LAPS system. It provides a complete stock index record for every part stored in the bins.

END IRONS for LONG PARTS

A 2-UNIT LAPS SYSTEM

Instantly adjustable in bin Size and Arrangement — Adaptable to any method of Parts Storage

WHEN you purchase a new LAPS System you get the following proven advantages of parts storage and stock record keeping.

(1) Correctly designed parts bins for a balanced stock with labels for every bin.

(2) A parts index system that is adaptable to listing parts as in any car manufacturer's parts book, or in accordance with your own method of listing and locating parts, or listing and locating parts numerically, alphabetically, grouped by car assembly numerically or grouped by car assembly alphabetically.

(3) MOVIT, the divider fastener that makes every LAPS divider a quick change divider. This feature is

used exclusively in LAPS and provides for the quickest rearrangement of bins or bin sizes possible to keep system up to date with shifting parts stocks and new car models.

(4) A system that will fit your stock requirements. LAPS systems are built in various sizes ranging from a 1 unit system carrying a \$500 stock, to a 24 unit system carrying a \$16,000 stock.

Ask your jobber to give you full details on Lupton Auto Parts Storage Systems and make certain you get MOVIT, the quick-change divider fastener. Manufactured exclusively by David Lupton's Sons Company, General Motors Building, Detroit, Mich.

LUPTON AUTO PARTS STORAGE



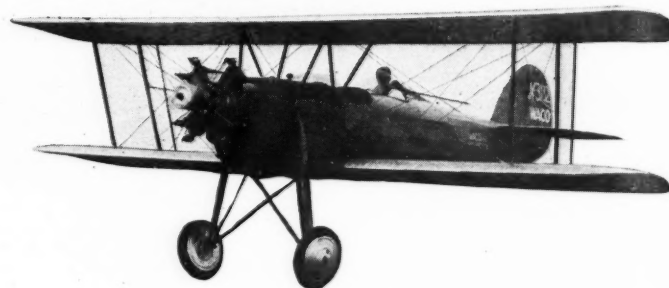
◆ *Largest producers of*
Denatured Alcohol ◆

U.S. INDUSTRIAL ALCOHOL CO.

Executive Offices: 110 East 42nd Street, New York, N. Y.—Branches in all principal cities



Chilton AERO Directory and Catalog



*will be ready for buyers
of things aircraft by
January*

—orders are now coming in from buyers
for copies at \$1 each.

—orders are now coming in from *sellers*
of things aircraft for space for their sales
story, their catalogs (some call it adver-
tising).

Aircraft Division

CHILTON CLASS JOURNAL CO.

Fifty-Sixth and Chestnut Sts., Philadelphia

Specifications

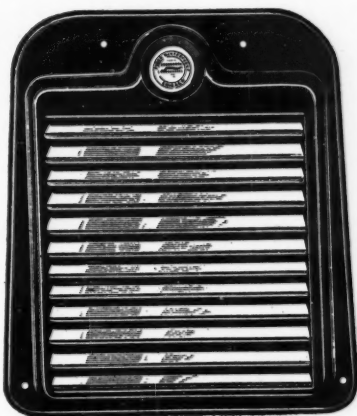
1. Size: Page 10½ x 7¾.
Type 9¾ x 6¾.
2. Contents: 200 pages of
companies classified by
products, specifications,
personnel, etc.
3. Distribution: 5000 copies
to manufacturers, oper-
ators and other purchasers
of aviation products.
4. Prime Purpose: To help
purchasers to get in touch
with suitable sources of
supply.

The Automobile Industry *Started this Great* **Pines AUTOMATIC** *Winterfront Year*

THIS looks like the biggest year Pines Automatic Winterfronts ever had. And the automobile industry started it by telling the public that *automatic motor protection* is the only sure way to guard the motor from cold.

We predicted car owners would demand the same protection now enjoyed by Hupmobile 8, Cadillac, La Salle, Lincoln, Pierce-Arrow and other fine cars.

Our prediction has come true. The car owners are running true to form. Every development in the past started by leaders in this industry has resulted in just such public demand—and naturally, a landslide for the dealers who have been far-sighted enough to take advantage of it. The public wants what these cars have.



These makers had their choice of two ways of motor protection. The first—a way that leaves this vital operation to memory and guesswork. The second—a positive, dependable, *automatic* way that works always with scientific accuracy.

They chose the *automatic* way—and the public followed their judgment.

Pines Automatic Winterfront is the shutter you must sell to meet

this demand. It is the only *automatic radiator shutter* on the market. Thermostats are guaranteed.

The big Pines Winterfront national advertising campaign is telling the world about this decision of the industry. Get lined up with your Winterfront distributor now. The season of Winterfront profits is here. Don't miss a single sale.

PINES
WINTERFRONT — *It's Automatic*

**PINES WINTERFRONT COMPANY, 410 North Sacramento Blvd.
 CHICAGO, ILLINOIS**

Wholesale distributing connections everywhere. Write us for name of your nearest distributor.

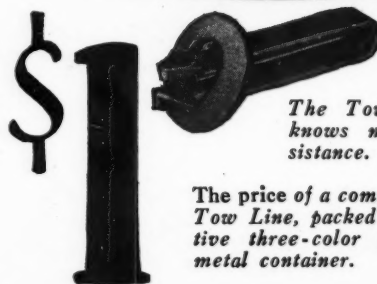
Here's a Price That Pulls Real Tow Line Profits—

When motorists *need* a tow line it's too late to buy one . . . *right now* is the time to sell them. The Atlantic Tow Line retails for \$1.00—the lowest priced insurance against the unexpected emergency.

The Atlantic, a highly approved automobile tow line, is a 12 ft. length of high grade, pliable, special alloy steel, with a pulling power of 5 tons.

Selling help with a brilliant display sign for your counter. Display them—sell them. Buy Atlantics from your Wholesaler!

The Atlantic Tow Line Manufacturing Co.
509 Boardwalk Atlantic City, N. J.



The Tow Line that knows no Sales Resistance.

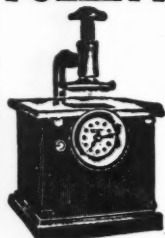
The price of a complete Atlantic Tow Line, packed in an attractive three-color pocket-fitting metal container.

THE ATLANTIC AUTOMOBILE TOW LINE



FOLLETT'S NEW MODEL TIME STAMP

accounts for every labor minute



Learn the interesting details from our descriptive data.

Prints the year, month, day, hour, minute, A.M. or P.M. at the exact moment the plunger is pressed—like this, for example:

NOV 19 1920 4 31 PM

Tells when a job is started—and when it is finished. There can be no dispute over the time charge.

Absolutely automatic — except for winding. Every machine guaranteed.

Follett Time Recording Co., 217 High Street, Newark, N.J.
"Established Since 1904"

UNIVERSAL SPRAY GUN

The Universal equips you to do spring lubrication, engine cleaning, painting, etc. You can add \$3 clear profit to your bill on every job.



\$12.00

QUICK PROFITS

for garages, service stations and repair shops.

The Universal Sprays oil, paint, cleaning liquid with equal efficiency. Air can be connected at either end of handle. New low price \$12.00. *Write today.*

ECONOMY MACHINE PRODUCTS CO.
5213-14 Lawrence Ave. Chicago, Ill.

Genuine CANTON 2-TON CRANE

Easy Payment Plan



Biggest Value

\$125

When you buy a 2-ton CANTON—you buy what **WILL LAST A LIFETIME**. This is **TRUE ECONOMY**. Castings are semi-steel; BBB hand forged chain, Hyatt Bearings. Used by Ford, Dodge, Packard. Two designs, ratchet and pawl—\$125. Safety Friction Load Brake \$50 additional. Can easily be installed on old cranes. Meets all State Safety Codes. Catalog. Ask about our Easy Payment Plan.

CANTON FOUNDRY & MACHINE CO.
CANTON, OHIO

DOVER SAVAL Liquid Oil Measures

Made of heavy steel, copper plated, highly polished and lacquered. A quality product. The universally known thumb operated valve control is simple, positive and fool-proof. Spout flexibility means speed, service and satisfaction. A simple, oil straining device assures clean, perfect oil—**ALWAYS**.

DOVER MEASURES

with valve control and oil straining device, are made in 1-3-4 quart capacities.



Patented April 2, 1918

Manufactured by
DOVER STAMPING & MFG. CO.
CAMBRIDGE A, MASS.



The short visor on the modern car makes every new car buyer a prospect for *Visorite*. Fits any visor, can be attached in a few seconds with patent clamps. *No holes to drill*. Attractive—well made—casts a soft green light which dispels all glare.

Lists at \$2.95

Ask your jobber's salesman. If he cannot supply you, write direct giving his name.

SAYLOR MFG. CO., DENVER, COLO.
2205 Champa Street

NEW! MOBILATOR NEW!
Automatic Starter Control
THE GREATEST AUTO DEVELOPMENT IN RECENT YEARS—
just push in the clutch to start your motor. Write for particulars. **Distributors wanted.**
MOBILATOR CORP., 2816-333 N. Michigan Ave., Chicago



Model A-AA
for
Passenger Cars

A waving red light is the universal danger signal. Here is a positive warning stop light, with positive profits. Write today for complete information.

The
ILER ELECTRICAL MFG. CO.
5103 Lakeside Avenue, Cleveland, Ohio

LANDIS Shock Diffusers

Now Ready for

FRANKLIN, PACKARD, MARMON
CHRYSLER IMP. 80, HUPMOBILE CEN. 8

LANDIS ENG. & MFG. CO.
AUTOMOTIVE DIV. WAYNESBORO, PENNA.

Weidenhoff

SHOP EQUIPMENT for
BATTERY and ELECTRICAL SERVICE

Test Benches • Rectifiers • Constant Potential Battery Chargers • Lathes
Battery Testers • Mile Undercutters • Growlers

4358 Roosevelt Road Chicago, Illinois

With the World to choose from
they chose
HOUDAILLE
Hydraulic Double-Acting
SHOCK ABSORBERS
for the ride
HOUE ENGINEERING CORP., Buffalo, N.Y.

The Hand Operated Brake Tester !

License Pat. No. 1264770
Other Pats. Pending.



Pedal Depressor
No. 6 Locking Type

The patented Linendoll Auto Brake Tester gives all information necessary for equalizing brakes on any car or light truck! \$37.50 complete. Write us!

THE NORWALK AUTO PARTS COMPANY
Norwalk, Ohio

Gen. Sales Office
Real Estate Trust Bldg.
Philadelphia, Pa.



How to Satisfy "Bill Kicker"

Bill Kicker is the tough customer who kicks over greased upholstery and marked fenders. The safest and most profitable way to do his work is to protect the car inside and out with **CAR OVERALLS**—made of strong striped Denim. Install quickly. Write for prices.

KEEP KLEAN AUTO PRODUCTS CO., INC.
416 E. 176th Street New York City

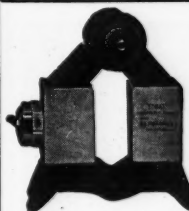
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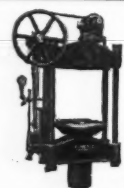
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STATEMENT OF OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,
 REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,
 of MOTOR AGE, published weekly at Philadelphia, Pa., for
 October 1, 1928

STATE OF PENNSYLVANIA } ss.
 COUNTY OF PHILADELPHIA }

Before me, a Notary Public in and for the STATE and county aforesaid, personally appeared C. A. Musselman, who having been duly sworn according to law, deposes and says that he is the Business Manager of MOTOR AGE, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publishers, editor, managing editor and business manager are: Publisher, Chilton Class Journal Company, Chestnut and 56th Sts., Philadelphia, Pa.; Editor, John Cleary, 3722 Highland Ave., Drexel Hill, Pa.; Directing Editor, Norman G. Shidle, 3815 Chestnut St., Philadelphia, Pa.; Business Manager, C. A. Musselman, Merion, Pa.

2. That the Owners are: (Give names and addresses of individual owners or if a corporation, give its name and names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock): United Publishers Corporation, 239 W. 39th St., New York City.

U. P. C. Stockholders in excess of 1%:

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C. A. Musselman, Merion, Pa.

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(B) United Business Publishers, Inc. (See Note) 239 West 39th St., New York City.
 Lee Higginson & Co. (Partnership), 43 Exchange Place, New York City.

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3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holders appear upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

C. A. MUSSELMAN

Sworn to and subscribed before me this 1st day of October, 1928.

(Seal) HARRY SMITH

Commission Expires January 20, 1930.

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DRIVERS



the ADAMS adjustable FOOT REST eliminates fatigue, awkward cushion at back and driving with cramped limbs.

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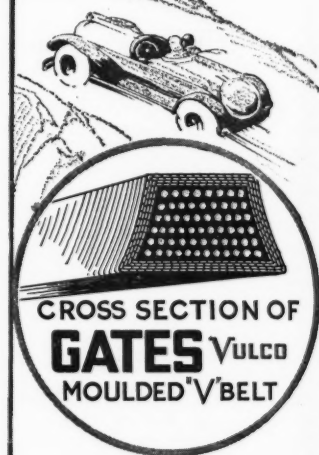


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like a cord tire—*

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"The Standardized Fan Belt"

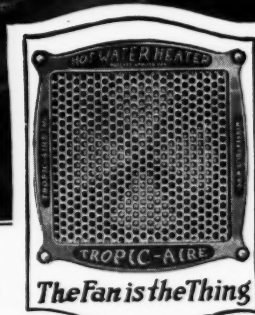
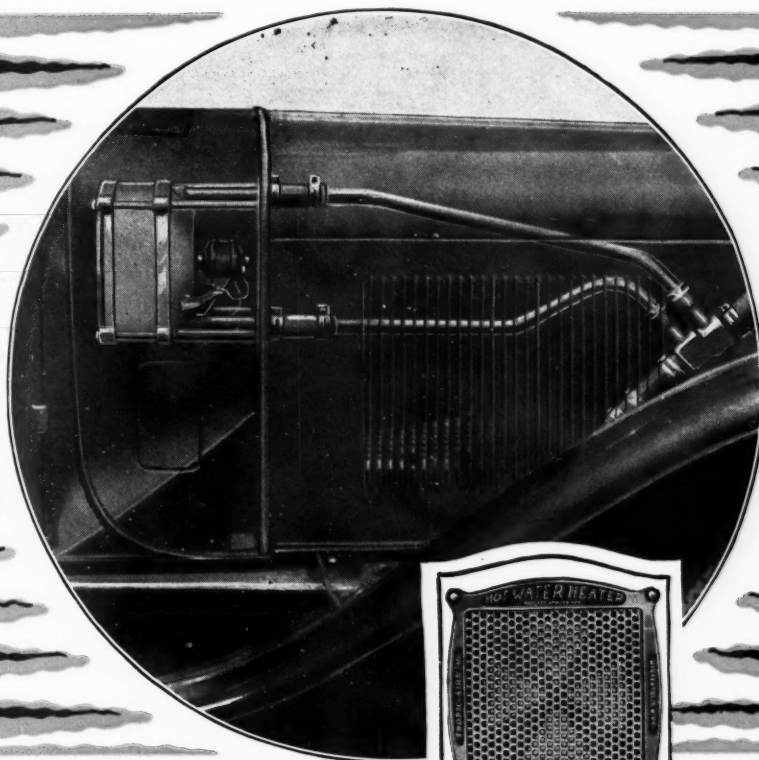
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HOT WATER

Automobile Heater



**Clean
Odorless
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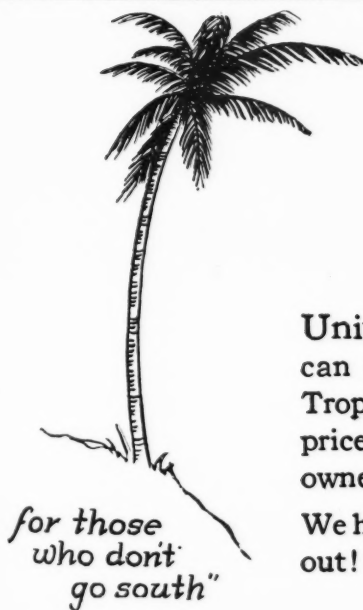
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go south"*

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